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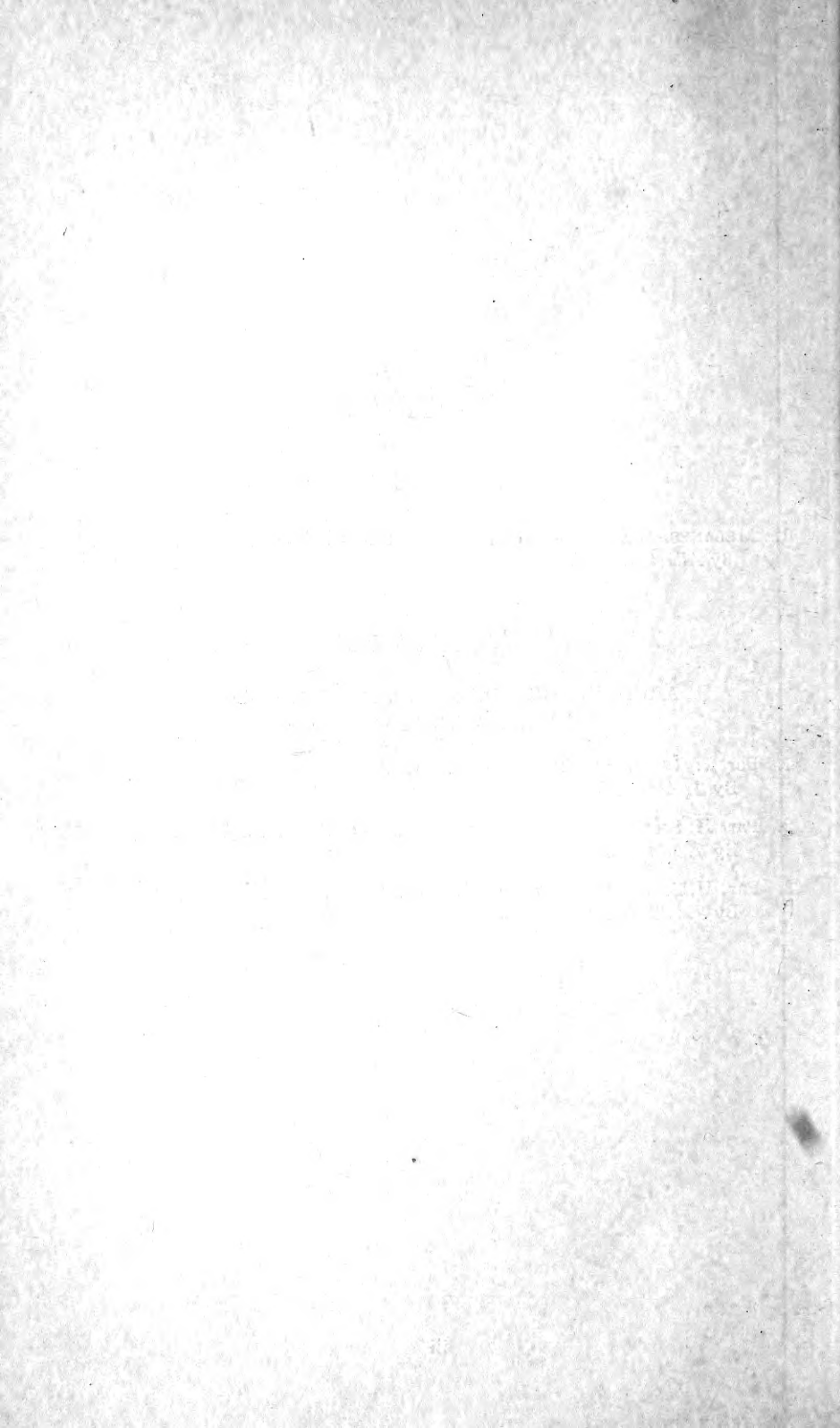
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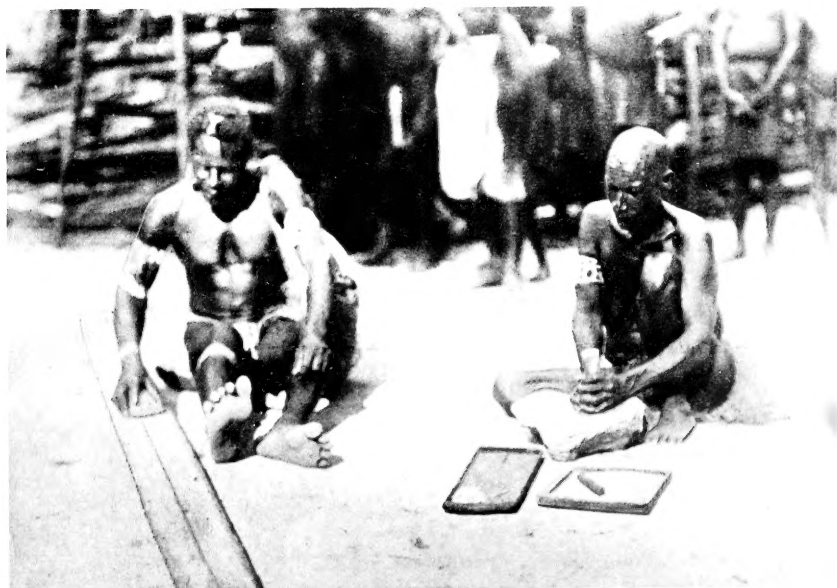








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MAKING SHELL MONEY. PONAM, ADMIRALTY ISLANDS

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MELANESIAN SHELL MONEY  
IN  
FIELD MUSEUM COLLECTIONS

BY  
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CHICAGO, U. S. A.

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# MELANESIAN SHELL MONEY

IN

## FIELD MUSEUM COLLECTIONS

In the present paper I have aimed to describe and figure the different kinds of Melanesian shell money in Field Museum. While the collections are extensive, they are by no means complete; but the more important gaps have been briefly referred to in the text, so this article may be regarded as a general account of the shell money of that region. The material on which it is based includes, besides the literature consulted and the Museum's collections, information and specimens obtained by myself during four years' (1909-13) travel and sojourn in many parts of Melanesia. I bought a number of specimens from the natives themselves, but important material from the Admiralty Islands, New Ireland, and Tanga was purchased from Mr. Komini, a Japanese planter who had lived a number of years in New Ireland and the Admiralty Islands.

Of the shell money obtained from other sources the most important is that collected by Richard Parkinson, who spent many years in the region. Dr. George A. Dorsey, in 1909, collected a number of specimens. Others were obtained from Captain H. Voogdt, who as captain of the New Guinea Company's steamer became familiar with a large part of the former German colony. Some money strings from the Solomons were collected about 1895 by Mr. W. Preston Harrison, and presented by him to the Museum. A few specimens from eastern Melanesia came with a collection which was obtained in 1893 from Mr. J. G. Peace of Noumea, New Caledonia. There are also a number of other specimens obtained from various sources, the actual collectors being in many cases unknown.

Shells or pieces of shells variously formed and arranged have been used as money or at least as a standard of value and exchange in many parts of the world, and in a few regions are still in use. In some cases such money, as for example the cowrie, is widely known and used over great stretches of territory. In other cases the use of a particular kind of shell money is limited to a small area, beyond which it has little or no value. Such was the case in Melanesia, where many different kinds of shell money have been found.<sup>1</sup> Most of the money here used has the form of small disks or beads arranged

in strings, the value depending on the kind of disk and the length of the string. This is not always the case, however, as in some places large shell rings were manufactured and used as payment in certain important transactions. These were very highly valued. Such shell rings made from *Tridacna* shell are found in the Central Solomon Islands,<sup>2</sup> (Plate II, Figs. 9 and 10), Tanga<sup>3</sup> (Plate II, Fig. 4), and Nissan<sup>4</sup> (Plate II, Fig. 3).

These rings are not the same as arm-rings, nor are they used for that purpose, though shell arm-rings are frequently used as a medium of exchange. The best Tanga arm-rings would in New Ireland buy a wife or one or two large pigs, and the finest pieces of money (*angfat*) had an equal or even greater value. Tanga was probably the most important center for the manufacture of these rings. Schlaginhaufen (*Globus*, Vol. 94, p. 168) mentions finding several workshops or factories where such rings were made. Field Museum possesses in the collection made by Komini a set of the stone implements used, with numerous rings of all sizes and kinds. The piece of shell, after being roughly pounded into shape, was bored by twisting it back and forth on the end of the grinding stone (Plate II, Fig. 7). This was firmly held in place by being fastened in the end of a piece of bamboo set in the ground. When pierced so a smaller stone could be inserted, the hole was enlarged with a small stone set in a piece of bamboo (Plate II, Fig. 5) and finally smoothed with a long round grinding stone (Plate II, Fig. 6). The outside was ground into shape on a flat stone, and the groove or grooves put in by rubbing it on the thin beveled edge of a large flat piece of stone which had been cut and ground to the proper shape (Plate II, Fig. 8).

For Nissan the method as described by Parkinson (p. 495) is first, after the piece of shell has been pounded and ground roughly into shape, to peck a depression in each side as deep as possible with hard pieces of stone or shell (Plate II, Fig. 1). By grinding or boring with a piece of pumice set in the end of a bamboo stick the depressions are deepened (Plate II, Fig. 2) until they finally meet.

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<sup>1</sup>Shell money has almost disappeared from most of Melanesia. Some of the common kinds are still to be found in places, and in a few localities may still be in use. Especially is this the case when its use is associated with long established customs and ceremonies.

<sup>2</sup>See especially Schneider, pp. 78-82, also Finsch, pp. 81, 90-92.

<sup>3</sup>Parkinson, pp. 303-304. In the Museum collections are many heavy rings used as money, as well as numerous arm-rings, and a set of the different stone implements used in their manufacture.

<sup>4</sup>Krause, pp. 137-139; Parkinson, pp. 495-496, Plate XXXV. All the specimens illustrated on Plate XXXV are now in Field Museum.

Shell arm-rings of *Tridacna* shell are also manufactured on the small islands of Seleo and Angel in Berlin Harbor. Here the hole is made by boring with a hollow bamboo, sand, and water, so that a center core is cut out, leaving a smooth round hole. The natives of these islands use the rings to buy sago from the people on the mainland. One ring will purchase 500 to 1000 pounds of sago meal, their most important article of food. One man refused to sell me a partly finished ring for any price, as he said he needed it to buy food for his family for the coming rainy season.

In southeastern New Guinea shell arm-rings made from a large *Conus* shell form one of the most valued possessions a native can have (Plate III, Fig. 1). Malinowski has described the peculiar position they hold in the trading voyages of the eastern archipelago. They are also carried by trade as far west as the Papuan Gulf. As many of them are too small to be used as arm-rings, they may be regarded as a form of money. Sometimes they are made of three or four pieces of shell fastened together (Plate III, Figs. 2 and 3).

Associated with these rings in the trading transactions of the eastern islanders was another kind of valuable (Plate III, Fig. 4) called *bagi*, made largely of red shell disks known as *sapi-sapi*. These disks were used extensively for ornaments, but strings of them also served as money (Plate VII, Fig. 7).

Throughout southeastern New Guinea red shell disks were highly valued for ornaments, and were used especially in making the valuable necklaces characteristic of this region. White disks were not so common, though they are often found mixed with the red in the money strings and necklaces, and on arm bands (see Plate III). These white disks are all nicely ground and bored, and are similar to the red except in color. *Sapi-sapi* was manufactured in several places in eastern New Guinea, especially in the Trobriands. Red or reddish disks were also formerly made in two places near Port Moresby, and while used chiefly for ornaments, were often strung and used as money (Finsch, pp. 52-57. Compare also Malinowski, pp. 506-507). An interesting use of shell money in Rossel Island has recently been described by Armstrong.

Nicely polished pearl shells were highly valued for ornaments in many places. In southwestern New Britain a shell of the golden yellow variety ("gold-lip") was especially valued, had pendants of a certain kind attached to it, and served as money in important transactions (Plate IV).

Another form of shell money is the *tambu* or *diwarra*<sup>1</sup> current in the Gazelle Peninsula of Northern New Britain (Plate VI, Fig. 2). This consists of the basal part of a small shell (*Nassa camelus*) strung on long strips of rattan. This shell is somewhat pointed on top like a camel's hump, and this hump is knocked off so the rattan may be passed through the base piece (Plate VI, Fig. 4a and b). The rattan is of such size that the shells fit rather tightly. A little space is usually left between them. The rattan strips can thus be broken into any length to make change. The unit value is the length of the outstretched arms from finger tip to finger tip. According to Parkinson (p. 88), it contains, or should contain, about 320 shells. This length is called a *pokono*. Fractions of this, as one-half, one-quarter, and one-eighth, have separate names. For smaller values the shells are usually counted, and the name is determined by the number of shells.

When first made the pieces of rattan are spliced together, making one long string which is coiled into a roll about the size of a small automobile tire. There may be from 100 to 500 fathoms, or even more, in one of these rolls. The coil is wrapped carefully with banana leaves, over which a rattan cover is often woven. The rolls are kept and guarded in a special treasure house, which corresponds in a way to the village bank; or the owner may keep his rolls in some small concealed hut or hiding place deep in the forest. These rolls represent the capital of the owner, and are not broken up except on very special occasions. For daily or ordinary use small coils and pieces of *tambu* are kept in a basket in the hut. This *tambu* or *diwarra* is the best known of all Melanesian shell money, and has been referred to and described by many writers, especially Danks, Schneider, Parkinson and Finsch. Its use, however, is limited to the Gazelle Peninsula, and especially that part of which Blanche Bay is the center. *Nassa* shells are used in many other places, especially on the southwest coast of New Britain, in Huon Gulf, and in several other places on the coast of New Guinea; but they are used chiefly as ornament—seldom as money. Also more of the top is knocked off, so that the basal part that is left is fairly thin and even, and when strung they fit close together on a pliable fiber cord (Plate VI, Figs. 3 and 4c). Such shells are used extensively as surface ornaments on forehead bands, belts, leg and arm bands, breast ornaments, string bags, and many other objects.

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<sup>1</sup>Called *diwara* on Duke of York Islands and New Ireland, *tambu* on New Britain.

Usually a second hole is punched in the base, so they can be fastened on like buttons. In southwestern New Britain they are often strung alternating with short pieces of the stem of the cassowary feather (Plate VII, Fig. 1), and in this form may serve as money as well as ornament.

One interesting development from *tambu* has taken place around Blanche Bay. *Tambu* itself is too valuable to be used as a plaything, so the children make a sort of false or imitation money (Plate VI, Fig. 1) out of another shell (*Nassa globosa*) to use in their play, which consists largely in imitating their elders' activities. With this, according to Romilly (p. 25), they drive "as hard bargains with each other as their fathers would do with the genuine article."

New Ireland was the chief center for shell money made out of small shell disks or beads. In New Britain and westward the making of these small disks was limited to a few localities, and while traded to other regions in small amounts, their use was chiefly, in most places entirely, for ornaments. Two of the best-known and most productive manufacturing centers are Tami Island in Huon Gulf, and certain small islands in the Admiralty Group, especially Ponam. In both these places small *Conus* or similar shells are used, so the disks do not need to be bored. The process as observed in 1911 at Ponam was as follows: The small shell (Plate VI, Fig. 5a) was first placed in a hole in the end of a short stick so that the base projected. Such a stick may be seen lying in the right-hand tray in Plate I. The base of the shell was ground off on a large smooth stone so that the central cavity was exposed (Plate VI, Fig. 5b). The shell was then taken out, and a short piece of the midrib of a palm leaf stuck tightly in the hole, so the shell could be held in position, while the lip was broken off, leaving a rather thick disk, smooth on one side and rough on the other (Plate VI, Figs. 5c and 5d). To break off the lip a piece of a large rather thin, but solid, bivalve shell was used (see Plate I, Fig. 1). The rough side of the disks was ground down by placing a number of them in shallow holes in the end of a short round stick, and rubbing them down on the grinding stone (Plate I, Fig. 2). The disks were then strung on a piece of rattan into a string several feet long. The string was stretched out on a long flat board (from an old canoe), and the ends tied tightly so as to hold it in place. It was then rubbed lengthwise with a piece of coral rock (Plate I, Fig. 2), thus smoothing and rounding the disks, and grinding them to an even size. Each operation was performed by a different worker; and the partly finished disks, after each worker was through with them, were thrown into

flat wooden trays where they accumulated till taken out for the next operation (Plate I). Strings of these disks (Plate VII, Figs. 2 and 3) were used as money, and had a standard value (Parkinson, p. 390; Eichhorn, p. 261). On the main island they were strung with the lower incisor teeth of the flying phalanger (Plate VII, Fig. 4) and apparently used in this form as money, as well as ornament.

From information and specimens obtained from G. Bamler of Tami, the method there is much the same, except that the projecting lip of the shell is knocked off with a small stone before the base is ground down, and both sides are smoothed by placing the disks in shallow depressions in the large round grinding stick (Plate V). The disks are strung on shorter strings and rounded by being rubbed back and forth with the flat of the hand on a stone. According to Bamler, these disks (Plate VII, Fig. 5) are not traded to the mainland of New Guinea, but to Siassi and New Britain.

The Duke of York Islands, lying between New Britain and New Ireland, were an important center for the manufacture of shell-disk money of the bored variety. This was called *pele*<sup>1</sup> and was put up in short strings tied together in bunches (Plate VIII) for trade. In old times these strings were about 25 cm long, and the disks nicely smoothed and rounded. In more recent times the strings are shorter, and the disks only roughly finished (Plate VIII, Figs. 3 and 4, and Plate IX, Figs. 9 and 10). There are several different kinds of *pele* with separate names, depending on the variety of shell from which the disks are made. Four of the more important varieties are *pirr*, made from the top of the shells of *Cypraea annulus* L. and *C. moneta* L.; *mbiu*, made chiefly from *Modiola plumescens* Dunk; *mui*, made from pieces of the rather thick walls of *Strombus luhuanus* L., and *munbun*, made from *Chrysostoma paradoxum* Born. These are illustrated in Plates VIII and IX, while pieces of the shells and upper and lower surfaces of the disks are shown in Plate VI, Figs. 12, 13, 17 and 18. As all the shells are relatively thin, the disks are not ground on the sides but only on the edges, and both the inner and outer original surfaces may be seen on the disks. A pump drill (Plate X, Fig. 1), with a pointed sliver of flint or chalcedony tied on the bottom for a drill-point, was used to make the holes. The strings used are made of fiber from the aerial roots of the Pandanus. The work was done by the women.

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<sup>1</sup>The article *a*, often written as a prefix to these names, is in this paper omitted. On the manufacture and use of *pele* see Schneider, pp. 52-54; Ribbe, pp. 158-164; Finsch, pp. 32-38; and Parkinson, pp. 90-91.



*Pele*, as put up in the Duke of York Islands, was not used as money, though the strings had a recognized standard value. It was traded partly to New Ireland, but chiefly to the New Britain natives around Blanche Bay, who used it to buy Nassa shells from the natives of the Nakanai coast to the west, where it was highly valued but apparently used largely for ornament. In New Ireland it was evidently used for money. Disks of *pirr*, *munbun*, and *lillie* (made of pieces of *Nautilus pompilius*) can be easily recognized because of their color and structure, and stretches of these disks are often met with in specimens of *birok*, the "pig-money" of southern New Ireland (see pp. 28-29).

The chief centers, however, for the manufacture of shell money, or rather the shell disks used as money, were in the many small islands lying off the coast of New Ireland. The process of manufacture has been observed in a few places, but usually we know of the source only by native reports. Where the money is found in circulation, the natives declare they obtain it from some other place, which may or may not be the place where it was made. Usually it is found to have come from a distance, and the original source is unknown. One can safely say, however, that the greater part, if not all, of the shell disks, whether used as money or not, are made on small islands off the mainland, or on large islands where there is not much arable land, and where consequently the women not only have plenty of time for this work, but also need some article of trade in order to buy vegetable food. The people may have been driven from the neighboring coast by inland tribes, and have made their home on these small islands for the sake of safety. This is certainly true of the small island of Auki off the southwest coast of Malaita in the Solomon Islands. This is one of the chief centers for the manufacture of shell money in the eastern Solomons. The village covers almost the whole of the island, and the inhabitants must obtain their vegetable food from the mainland people. Although constantly at war, there are regular market days when a truce is declared, and the people meet in some neutral spot on the mainland shore where the women carry on a brisk trade, while the armed men of both sides stand around and carefully watch the proceedings. There is seldom any infringement of the truce at these markets, though at other times they would attack each other on sight.

The great number of these small islands off New Ireland may be one reason for the great variety of shell money found there. Different writers have mentioned and described many different kinds under

many different names. Some can be identified on comparison with the Museum specimens, and many cannot. Finsch's discussion of New Ireland money illustrates the same difficulty. Also we do not know what the names mean. Some, as in the Duke of York Islands, may be simply the names of the shells from which the disks are made. A few of the varieties and names seem to be fairly well known and used over considerable areas. Parkinson (p. 302) says that the names of the different kinds vary greatly in the different districts, and that there are also many varieties of money strings. The disks vary greatly in size, color, and arrangement on the string, each kind of a string having a different value and a special name.

The question might be raised as to whether these strings of shell disks are money or not. Some of them we know to have had a standard value and to have served as a medium of exchange. So far as known, the others were used the same way. They are all put up in strings, and seldom made into ornaments. The only ornaments at all common are belts made of several strings of disks fastened together. These are found chiefly in southern New Ireland and the small islands to the eastward.

The value of this shell-disk money depends on the color and workmanship. Small red disks were the most valuable, and also the rarest. Red disks are seldom found alone, but short stretches of them are mixed with other colors, chiefly white—the more red, the greater the value of the string. Often there is a more or less definite arrangement, as in *tapsoka* (No. 7, p. 19). The value varied also with the locality. Early writers differ greatly in comparing the value of native money with European money. This is to be expected, as the natives' ideas of the value of European articles changed as these became more common.<sup>1</sup> Pigs are perhaps as good for comparative values as anything, though the pig is much more valued by the natives than by us when we estimate its value in vegetable food. In northern New Ireland one pig was worth six to seven strings of *tapsoka* (Finsch, p. 40). Danks says there was a kind of money in New Ireland which had the value of one large pig. This was doubtless *birok* (p. 24). Danks has given us the value of various native articles in amounts of the New Britain *tambu*, but for New Ireland money we have no such information.

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<sup>1</sup>I have had a native of New Guinea refuse the best quality steel axe in exchange for his stone axe, while in another region a similar stone axe might be bought for a stick of tobacco or a few fishhooks. In another place a large, finely ornamented wooden shield was gladly given for less than half a thimbleful of vermilion.

The shell money of New Ireland in Field Museum will be described under three general divisions: the varieties made from *Conus* or similar shells, in which the base of the shell is used with its natural opening; those made of shell disks which have the hole bored, being made of pieces of both bivalves and univalves, either ground down on the sides or of pieces so thin that they need no grinding; and those made of different kinds of disks, which are often arranged according to a definite plan.

While we cannot be sure how the natives classified them, at least five different varieties can easily be distinguished under the first division.

(1) A long string (Plate XI, Fig. 1) of fairly uniform bluish white disks (Plate VI, Fig. 6) averaging 4 mm in diameter and somewhat over 1 mm thick (7-8 per cm). They are strung on a well twisted native cord, which has broken, the longest piece being 230 cm long. About every 20 cm are two large black ribbed seeds 5-6 mm in diameter, separated by about 1 cm of the shell disks. This specimen was collected by Parkinson, and has his original label marked "Money (Tomanabung) north end New Ireland, St. Matthias and parts of New Hanover." It does not seem to correspond exactly to any of the varieties mentioned by Schneider or Finsch.

(2) A string (Plate XI, Fig. 2) 80 cm long of white to grayish disks, somewhat similar to the above but smaller and of a different shade of white. The average diameter is about 3 mm, varying irregularly from  $2\frac{1}{2}$  to 4 mm. The string is a light colored, loosely twisted native cord of rather fine fibres (*Pandanus*). According to Parkinson this specimen comes from near Cape St. Marie, on the southeast coast. No name is given for it, but it seems to correspond to the *kabong* of Finsch. As is the case with his specimens, it contains a few reddish brown disks (bored).

At one end of this string is a section 10 cm long of smaller ( $2\frac{1}{2}$ -3 mm diameter) and thinner disks in alternating dark brown and white areas of about 1 cm each. Both kinds are bored, hence entirely different from the rest of the string.

(3) From the northeast coast come a number of strings (Plate XI, Fig. 5) 70-75 cm long, with disks (Plate VI, Fig. 7)  $2\frac{1}{2}$ -3 mm diameter, varying in shade from a light brownish or dirty white to a light rose pink. Some of the strings are very uniform in size and color, others much mixed. The disks vary considerably in thickness, but average eight to ten to the centimeter, though in one small

pinkish string they run fifteen to eighteen to the centimeter. The pinkish or reddish disks are generally smaller and thinner than the white. The strings are merely bunches of a rather fine fiber, the ends beyond the disks being a three-stranded plait, usually with some extra fiber added. Often the ends of several strings are plaited together.

Most of these strings are from the Parkinson collection, but no name is attached to them. From the west coast near Cape Givry, however, comes a girdle (Plate XI, Fig. 3) of 16 strings of similar disks, also varying from a dirty white to a very light red or pink, which Parkinson's label says is made of the money called *linderan*. Another girdle (Plate XI, Fig. 4) from southern New Ireland is made entirely of the light pinkish disks, very uniform in size and appearance. Judging from his illustrations, this is the same as the *linderan* found in the south by Stephan (Stephan and Graebner, p. 68; also Plate III, Figs. 27 and 28). Probably the name refers to the color rather than the material. Part, possibly all of the varieties of *bau* as described by Schneider (p. 57) are included here, and also the *kemekass* and *kokonon*, second variety, given by Finsch (p. 43).

Most of these probably came from the small islands to the east, especially Tanga and Caens, and it is not unlikely that the natives distinguish more than one kind, particularly the white and pink, as in some strings there will be an area of uniform pink disks in an otherwise uniformly white string. In most of the strings, however, they are irregularly mixed, and with various intermediate shades.

(4) Somewhat similar to the above is a very uniform string (Plate XI, Fig. 6) of small ivory-white disks,  $1\frac{1}{2}$  mm in diameter and running about nine to the centimeter. It is 177 cm long with a section 1 cm long at each end of alternate white disks and small black seeds (same as *kokonon luluai*, see p. 23). Parkinson's label gives this as from the southeast coast, but no name is attached. Another string (98817) is of the same kind of disks. These are probably the same as Schneider's No. 8.

(5) There are also a number of strings (such as those illustrated on Plate XI, Figs. 7 and 8) of a uniform medium gray, much darker than those under No. 3 and many of them smaller but otherwise similar (2-3 cm diameter). A few disks show slight brownish or reddish tints. Most of the strings are 70-75 cm long, strung on the same kind of string as No. 3. In one case eight strings have their ends plaited together. Two of the strings are longer (162 and 166 cm) and strung on a small, fine, tightly twisted cord.

No definite location is given for this variety, but a belt of ten strings from the northeast coast has the central part (about one-fourth) of all the strings made of the reddish variety of No. 3, while the remainder of the strings is of this gray variety, the two kinds being sharply marked off by a small black reed placed on the string between them. This variety is doubtless the same as Schneider's *titpele*.

Several different kinds of bored disks may be distinguished in the money from New Ireland. Of these the following (Nos. 6-12) represent distinct varieties.

(6) A string (Plate XII, Fig. 1) 177 cm long, of grayish white disks (Plate VI, Fig. 10), some with a very slight tint of purple or pink, fairly uniform but varying between 2 and 4 mm in diameter. It comes from the northeast coast (Parkinson). These disks are somewhat lighter in shade than those in the women's belts from Tanga, of which there are a number in the Museum. There is also a similar belt (Plate XII, Fig. 2) from the west coast of New Ireland. In all these there are also stretches of dark brown disks (No. 10, p. 22). The white disks are not all uniform, either in size or color, and are evidently from more than one kind of shell. They seem to correspond, however, to the *ninomai* of Finsch (p. 44) and the *tikutkut* of Schneider (p. 57). The cord used for the money string and the belts is the same. It is made of two strands of fine fiber tightly twisted together.

In the collections are two (Cat. Nos. 89532 and 145476) short belts or collars, with no definite locality given, but probably from this general region. They are 28 cm and 30 cm long, very similar in appearance, and made of the same kind of white and red shell disks, with some black seeds. The white disks are similar to those in the string, but larger and a lighter gray without the pinkish tints. The cord is a bunch of straight or slightly twisted fibers. The disks, both white and red, are not exactly the same as any others from New Ireland, so may be from some other region (Plate XII, Fig. 3).

The following two kinds are somewhat similar, and seem to be made out of the same sort of material.

(7) The most valuable is that usually known as *tapsoka* in northern New Ireland. The six strings (Plate XII, Figs. 4-6) in the Parkinson collection vary from 46 to 65 cm in length, and are strung on native cord. The disks are from 3 to 5 mm in diameter, though those in each string are fairly uniform. The smaller disks

are much smoother and better finished than the larger. The average number is twelve to fourteen to the centimeter. In addition to being very roughly finished, the disks are often incomplete, as if made out of old and weather-worn pieces of shell. The color is either a medium brown or red, or a semi-transparent white. On the string disks of red and white are arranged in alternate sections one or more cm in length. Brown disks are also fairly common. Sometimes the same disk shows more than one color. This is readily understood from the fact that the disks are made out of the broken pieces of a large shell which is white on the inside, shading into reds and browns on the outside and toward the lip. There are a number of such pieces, with disks in various stages of manufacture (Plate VI, Fig. 14), in the Museum's collections. They are also described and figured by Schneider (pp. 54-55 and Plate V). Parkinson (p. 301) says *tapsoka* is manufactured in several small islands off the coast of New Hanover, the drill (Plate X, Fig. 2) used being a thin stick whirled between the hands instead of the usual pump drill. Parkinson's label gives *lolot* and *telemai* as other names for *tapsoka*. Hahl gives *lolat* as the name in central New Ireland for *tapsoka*, and says it came from northern New Ireland by way of Gardiner and Lihir islands.

(8) The other kind which is in some ways similar to *tapsoka* is somewhat smaller (2-4 mm diameter) and of a fairly uniform medium dark brown with reddish tints (Plate VI, Fig. 15). In the Parkinson collection (Plate XII, Figs. 8-9) are two strings (168 and 176 cm respectively) labeled "money (kokonon and tingerip)—central part of New Ireland." There are also in the Museum collections a number of similar strings (Plate XII, Fig. 10) from near Cape Givry, besides a few not definitely located. Most of the strings are fairly uniform in size (average  $2\frac{1}{2}$  mm) and color, but occasionally there are areas of reddish or of red and white disks very similar to *tapsoka*, except smaller.

This brown money is apparently the same as Finsch's *mangin* or *alanget* (*arangit*?) which he says is the same as the best grade of *kokonon*. It is the same as the *mangin* of Dr. Hahl which he says is known on the west coast as *arangit*, and comes apparently from Tanga. Fellman (Mitt. Sem. Orient. Sprachen, Vol. V, p. 93, note) says *arangit* has a reddish brown color, and is the common shell money in the central part of New Ireland. It is worth 50 to 75 cents per fathom (about  $1\frac{2}{3}$  meters). Schneider's *arangit* is probably the same, though the value given by Schneider from

Ribbe ( $\frac{1}{4}$ - $\frac{1}{2}$  m = 10 fathoms *diwarra* = 2 hogs) as found in certain places in southern New Ireland, is clearly not in accord with the value of ordinary *arangit* in the central part of the island. Schneider's *tingerib*, though corresponding to one of Parkinson's names, is evidently another sort. It may be that this name, as used by Parkinson, applies to the red disks only, but even these are not the same as Schneider's *tingerib*. All the strings are native, consisting merely of a loosely twisted strand of rather fine fibers, which in some of the specimens are decidedly brittle. In *tapsoka* the strings are small two-stranded twisted cords of a different material. These two kinds usually appear quite distinct, but there is nothing to show that the brown kind may not be made out of exactly the same material as the brown disks of *tapsoka*. The typical *tapsoka* shows alternate areas of red and white, but there are also sometimes considerable areas of brown. One string (Plate XII, Fig. 7) has almost exactly the appearance of *kokonon*, except it is larger. All the disks are brown except a small area (5 cm) of red and white disks in the center of the string. This, as well as its length (55 cm) and the character of the cord, would place it with *tapsoka*. As the brown disks are regarded as much less valuable than the red ones, it may well be a separate variety with a special name. It is a carefully made string, very uniform in size (4 mm), the five centimeters of true *tapsoka* being exactly at the center (three red and two white areas, each 1 cm long), while at each end is 1 cm of the small black seeds and white disks of *kokonon luluai*.

Wherever shell money is used in the South Seas the red disks are regarded as the most valuable. On this account they are seldom strung separately, but are usually mixed with other sorts, as in Nos. 2 and 7. In the Museum collections are at least two, possibly three, distinct kinds of small red disks—the most beautiful and finely made of all the shell money of this region.

(9) Only one kind forms a complete string by itself (Plate XIII, Fig. 1). This is from the Parkinson collection, and is reported as coming from the east coast north of Cape St. Marie, though the fact that at each end is 1 cm of the black seeds and white disks of *kokonon luluai*, which is only reported from northern New Ireland, would indicate a somewhat northern origin for this particular string. This may be the same variety as that known as *kawas* in central New Ireland and said to come from Lihir (Hahl in *Globus*, Vol. 91, p. 312). Either this or the following variety, and possibly both, may represent the *linderan* of Stephan and Graebner (p. 68) and

the *ledara* of Pfeil (p. 110), which he says is the most valuable kind of money in New Ireland and worth one-half more than *tapsoka*. The string is 65 cm long, the disks 2-2½ mm in diameter and ½ mm thick. The disks are light red, and in certain lights show a bright golden color, so that the string fairly glitters in a bright light. The holes in the disks are relatively small (½ mm) so that they fit tightly on the small twisted cord.

(10) Similar to this is another kind or variety found in the middle of several strings of *kokonon luluai* (Plates XIII, Figs. 2 and 3). They extend for 5-12 cm, also show golden tints, but are much darker and considerably smaller. The color is rather dark brownish red, the diameter 1½-2 mm, while the holes in the disks (⅔-1 mm) are both relatively and absolutely larger than in the previous kind. They run about twenty-five to the centimeter. Being in strings of *kokonon luluai* indicates that this variety comes from northern New Ireland.

(11) Another variety (Plates XIII, Fig. 4; VI, Fig. 16) of small disks is found in a girdle from the northeast coast near Cape Sass. There are 22 cm of small reddish disks very uniformly 2 mm in diameter, running twenty-five to twenty-eight to the centimeter. The disks vary in color, some light red, others various shades of light to dark reddish brown. These are irregularly arranged on the string, and as the disks are so thin it gives the string a mottled appearance. There are also several areas of white, reminding one of *tapsoka*, in fact the material of which the disks are made appears to be very similar. Several strings of *kokonon luluai* show stretches of this variety. Either this or the preceding is probably the same as the *tingerib* of Schneider.

(12) Black money (really various shades of dark brown) is mentioned by several writers. Hahl mentions two kinds, *bukean* and *kabon*, as formerly in use in central New Ireland. Stephan and Graebner mention *manin*, "small black disks," from the Laur district, southern New Ireland, which they say is the same as that described as *miu* by Schneider. There are no separate strings of black money in the collections from New Ireland, but considerable stretches of black or dark brown disks occur in many of the strings. One kind has already been mentioned under No. 2 (which appears about the same as Schneider's *miu*, and is from the same region). Large disks (4 mm diameter) of a somewhat different color are found in No. 13 to be described later. Dark reddish brown disks 2-3 mm in diameter are found in several strings from northern New Ireland.



Also in the composite "pig money" from southern New Ireland are found many areas of dark brown and reddish or purplish brown disks, varying (in different strings and places) from 2 to 4 mm in diameter. In one (Cat. No. 145540) there is at one end a string 227 cm long of dark brown disks fairly uniform in diameter (2-3 mm) and quite thin, running about twenty to twenty-four to the centimeter. This is probably the same as Schneider's *miu*. Some of these are made from very thin bivalves, as even some of the smallest and thinnest disks show both the inner and outer sides of the shell unground. These may be *mbiu* from the Duke of York Islands. Others, both larger and smaller, are carefully ground down, hence there must have been several kinds of "black" money, probably mostly imported. Some of the disks are shown on Plate VI, Fig. 11. In the collection are four strings of black money (Plate XIII, Fig. 5) which were obtained at Rabaul in 1910, but were said to come from the Duke of York Islands. The disks average 3-4 mm in diameter, and while slightly more irregular in size, are otherwise indistinguishable from the dark areas of such belts as that illustrated in Plate XII, Fig. 2. They are strung on European cord, very uniform in length (three are 152 cm long, one 150 cm) and appearance, even though the disks are of several different kinds. This may be a modern development of the Duke of York money-making industry, or they may have come from New Ireland. At any rate, they must have been intended for New Ireland use, as such money is not current in New Britain.

One common method of varying the uniformity of a money string is by having different colors alternate, such as red and white in *tapsoka*, black and white as in the portion of No. 2 already referred to (Plate XIII, Fig. 7) and very frequently in the composite "pig money" described later. Also in the following:

(13) A very uniform string 50 cm long (Plate XIII, Fig. 6) of black (very dark brown) and white disks (4 mm diameter) in alternate areas varying from two disks of each kind to areas a centimeter or more in length. All the disks are bored, fairly uniform in thickness (nearly 1 mm) and all fit tightly on the rather large string—a bunch of loosely twisted coarse fibers (coconut?) about  $1\frac{1}{2}$  mm in diameter. The location given by Parkinson is the east coast north of Cape St. Marie. No name is attached.

(14) From northern New Ireland come a considerable number of strings 65-70 cm long of small ( $2-2\frac{1}{2}$  mm diameter) white disks (like some of No. 3) alternating with somewhat longer black seeds

(Plate XIII, Fig. 8). In some strings the arrangement is two disks to one seed (Plate XIII, Fig. 9). This variety is called *kokonon luluai* by Finsch. Parkinson's label calls it *mirimirimir*, and says it is found from the north end to about opposite Lihir. This kind is much used for ornament, and is often found at the ends of other strings. One girdle from the northeast coast is composed largely of this variety.

(15) In the Parkinson collection are a dozen or more strings of varying lengths, in which several kinds of disks are mixed in a more or less irregular fashion (Plate XIII, Figs. 10-12). Most of the strings are about 75 cm long, put up in the same fashion as that described under No. 3, and made up largely of the same sort of disks but also with many bored white disks of different kinds, as well as red and brown disks of different shades. No name is given for these and whether they have the same name and value among the natives as No. 3, or whether they are a different, perhaps a degenerate form, it is impossible to say. From the number, however, it would appear that the different kinds of disks were very often strung in this irregular fashion. One of these mixed strings has some of the smallest and most delicate disks, or more properly rings, in the New Ireland collection. They are about  $\frac{1}{2}$  mm thick,  $1\frac{3}{8}$  mm outside diameter, and  $1\frac{1}{8}$  mm inside diameter, but still show the inside spiral marking of the *Conus* shell, so may be regarded as a variety of No. 3. The smallest ground and bored disks (No. 10) are considerably thinner, but the hole is not so large, so that the disk is flat and has quite a different shape from these delicate rings.

(16) The most elaborate and valuable of all the varieties of New Ireland shell money is that known as *birok*. It is called *birogh* on the west coast and *m'bigrog* on the east coast of New Ireland, according to Ribbe and Hellwig (Schneider, p. 59); *nulpap* in central New Ireland, according to Hahl; and is commonly called "pig money" in Pidgin-English, as it was used in paying for pigs, usually in connection with important ceremonies when pigs were killed. Hahl says that it came from the Siar region and was made chiefly in Mimias, and that only rich people could acquire and own such money packets. All the specimens (fifteen) in the Museum collections, as well as those described by Schneider and Finsch, are constructed according to a certain general plan. Beginning at what may be called the smaller end, we find in succession the following parts or sections: (A) A string of various kinds of shell disks up to two meters or more in length. (B) A short section of shell money in the center of which,

woven over the string which passes through it diagonally, is a small rattan square woven in different colors, usually red, black and yellow. (C) Attached to the single string a double string of shell disks arranged edge to edge. For each string of disks two separate cords are used, passing in opposite directions through the hole in each disk, and then back through the hole in the next disk, so that the disks are held firmly edge to edge (Plate XIII, Fig. 14). For convenience these will be called "edged" strings or strands. (D) Four large dogs' teeth (canines) on each side of which are short strings (one to several) of disks attached on one side to the two "edged" strings, and on the other to section (E) which consists of a number of "edged" strands, usually eight, with pigs' tails or pieces of shell, or both, on the ends.

With the exception of two specimens (one shown on Plate XIX), which seem to have lost the woven square, all the specimens follow this general plan, the variation being in the length and make-up of the sections, which in the case of sections (B) and (C) may be repeated one or more times. On one string only (Plate XVII) is there a double set of four dogs' teeth. Section (A) is usually between one and three meters in length and is never uniform, but made up of several kinds of shell disks, or areas with seeds alternating with shell disks. Small beads of different colors are found in some specimens. The thin woven square or packet of section (B) varies from 3 to 6 cm square, though when there is an extra one it is sometimes smaller. The string runs diagonally through the packet, and there is also another string passing through at right angles and out at the other two corners. On this are strung a few cm of shell disks or beads, and some object, such as a pig's tail, piece of shell, tooth, or piece of cloth, is fastened to each end. These square packets are said by Finsch to be amulets and to contain some special magical objects, such as hair, etc. I have opened only one packet, but this contained, so far as could be seen, absolutely nothing except the folded strip of Pandanus leaf over which the rattan was woven.

Section (C), the part composed of two strings of disks set edge to edge, varies in length, when single, from 230 cm to 815 cm, though if repeated one of the sections may be made shorter. Between the sections a shell or a large seed may be found instead of an extra rattan square.

The only unvarying part of section (D) is the four dogs' teeth, which are duplicated in only one specimen (Plate XVII). This section is always relatively short, usually much less than a meter

in length (in one case only 5 cm). The part connecting the teeth with the two "edged" strands may be single or double, while on the other side there are usually one, two, or four strands.

The greater mass of the specimens is composed of section (E). In all but two of the fifteen specimens this consists of eight strands, in the others seven and six respectively. In any one specimen these are approximately the same length, but they vary in the different specimens from 315 to 890 cm. Each strand has one or more pigs' tails fastened to the end, sometimes also a piece of shell. In only one case are two strands fastened to one tail. On a few strands the tails are lacking, but as this occurs in old and somewhat injured specimens, it is more likely they have been lost than that originally there were none. In one specimen (Cat. No. 148094) which has only seven instead of eight strands, there are only five pigs' tails, two strands having only pieces of shell at the ends. In another specimen (Plate XIX), where next to the pigs' tails the eight strings all run through a large shell of *Dentalium elephantinum*, there are only seven tails. On the other specimens the number varies from eight to seventeen (Plate XV).

The meaning of the pigs' tails is not certain. This kind of money was used only in the purchase of hogs in connection with important feasts and ceremonies, and has long since disappeared. Stephan in 1904 found no trace of any in southern New Ireland. Reports vary as to the value of these specimens, but there seems little doubt that each one represented the value of a hog. Schneider makes this definite statement on the authority of Ribbe and Hellwig. Danks, after speaking of other kinds of money, says, "There is another kind of money obtained in New Ireland, but from what I can gather, it is used only in the purchase of pigs. It seems to be more an article of barter, the value of which is a large pig, than currency." Schneider says the number of tails indicates the number of pigs it has purchased, i.e., the number of times it has been used in connection with these ceremonies, and implies that this increases its value. Pfeil says practically the same thing.

The statement made in some cases that the number of tails shows the number of hogs the specimen is worth is not at all probable, as it would make the specimens worth more than would seem likely from the number of shell disks in them and would also make their value vary irrespective of size. The number of tails in the specimens in the museum varies from five to seventeen, while the estimated number of disks in the specimen with seventeen tails (15,000) is

but little more than that with five tails (14,000). Several other specimens have over 20,000 disks, one at least 22,000 disks, with twelve tails. The usual number of tails is from eight to fifteen.

The value of the disks is a little uncertain; still one can arrive at a general estimate. We have no statement as to the value of the white disks which make up most of the specimens, but we have for some other kinds. Schneider says six to seven strings of *tapsoka* will buy a pig. The strings of *tapsoka* are 65-75 cm long, and average  $12\frac{1}{2}$  disks per cm or 1,250 to the meter. This would make a pig worth from 5,000 to 6,500 disks of *tapsoka*, which is very much more valuable than the ordinary white money. Perhaps a better comparison would be with the ordinary *pele* of the Duke of York Islands. Danks says four to five strings (equaling approximately one meter or about 1,250 disks) are worth one fathom of *tambu*, the New Britain shell money made out of *Nassa camelus*.

The value of hogs in *tambu* varies with size, time and place, and has been given from seven to forty fathoms for one hog. Taking ten to twenty as a conservative estimate, we find the number of disks of *pele*, that one hog is worth, equals 12,500 to 25,000, which would include, as far as number of disks is concerned, all the specimens of *birok* in the Museum. As there was direct communication between Duke of York Islands and southern New Ireland, and many of the disks in *birok* are the same as certain kinds of *pele*, this would seem to be a perfectly fair comparison, and make the value of a *birok* equal to one hog, as reported. All this would mean little, of course, if the value of a *birok* depended on its history or ceremonial use.

The shell disks used in these specimens are of many different kinds, though by far the majority are a dirty white, from 3 to 4 mm in diameter. Very few exceed  $4\frac{1}{2}$  mm or are less than  $2\frac{1}{2}$  mm. Most of them are bored disks, though disks from *Conus* shells are not uncommon. Finsch says that the disks are 5 mm in diameter and made from *Conus* shells. This is not the case with any of these specimens. The disks of the "edged" strands are more uniform than those strung in the ordinary fashion, where many different kinds of disks, such as white of several kinds, reddish brown, dark brown to black, orange and purplish disks, as well as seeds and beads, are used. As an illustration two of the strings will be described in some detail, beginning at the smaller end. This end, by the way, always terminates in a plaited string 10-20 cm long, formed by adding a number of strands to the regular cord.

In the first specimen (Plate XV), a relatively simple one, the parts are as follows: (A) This consists of (a) a string 173 cm long of beads, shell disks and seeds, the first 21 cm being very irregularly arranged, the rest consisting of alternate areas 1 cm or more long of white beads and very thin dark brown disks ( $2\frac{1}{2}$ -3 mm in diameter and about  $\frac{1}{2}$  mm thick); (b) 17 cm of white disks and black seeds, alternating; (c) 7 cm of white disks and dark brown disks alternating; (d) a portion 120 cm long in which the disks are fastened by the side to a three-stranded plaited string (Plate XIII, Fig. 13). This is the only piece of the kind known from New Ireland and apparently is a foreign string added to the specimen, as in addition to the technique the disks are also different from all others, dirty white in color and crudely made, the hole being very irregular and usually to one side.

(B) The section with the woven rattan square, on each side of which are 4 cm of orange disks (these are apparently the same as the *munbun* of Duke of York Islands). At the opposite corners of the square are strings (6 and 7 cm long) of white disks and black seeds, usually alternating, with part of a large black seed and pig's tail at the ends. The square is 5 cm on the sides, about 4 mm thick, and covered with narrow strips of black, red, and yellow rattan woven in different designs. On the main string next to the square there are two *Nassa* shells on one side and one on the other.

(C) Two strands 381 cm long of disks edge to edge, mostly white (3-4 mm diameter) with a few reddish and purplish disks.

(D) The section with the four dog's teeth, having two strings (2 cm long) of white disks on one side (continuing the two "edged" strands) and four strings ( $2\frac{1}{2}$  cm long) on the other (white with a few purple and orange disks), each continued into two "edged" strings of the next section.

(E) Eight "edged" strands 515 cm long, mostly white, but with a few purplish and dark brown disks and an occasional black seed. All the strings end in pigs' tails, two strings with one each, five with two each, and one with five—seventeen in all. The total number of disks in this specimen is at least 15,000.

The other specimen (Plate XVII) is more complicated, and the different parts will be only briefly enumerated.

(A) Fastened to the plaited end are three crab-claw rattles; then follow (a) 76 cm of red, blue and white beads, (b) 137 cm of white and dark brown shell disks, arranged in alternate areas about

1 cm in length, (c) 10 cm of various beads and brown disks mixed, (d) 7 cm of white disks, (e) a large nut similar to a walnut.

(B) (a) 5 cm having 1 cm white disks (three times) alternating with four strands of small black seeds (two times), (b) small (2 cm) red rattan square, (c) same as (a), (d) rattan square  $3\frac{1}{2}$  cm on side, red and yellow, at opposite corners a short string ( $2\frac{1}{2}$  cm) of shell disks (white, orange and reddish on one side, and white disks and black seeds alternating on the other), each terminating in a piece of red cloth, (e) same as (a) with large blue bead at end.

(C) Two "edged" strings 814 cm long.

(D) (a) Large blue bead, then 4 cm of double string with orange disks, (b) 1 cm of white disks, (c) four dog's teeth, (d) 2 cm of white disks with large blue bead in center, (e) white disks (1 cm) and four strands of black seeds ( $1\frac{1}{2}$  cm) alternating, each three times, (f) 3 cm empty string. (a) to (e) are then repeated in opposite order.

(E) Eight "edged" strands 452 to 457 cm long, ending in fifteen pigs' tails, two strands with one tail each, five with two each, and one with three. Most of the disks in this part are of the ordinary white variety, but the last 85-90 cm of each strand is different, the disks being smaller and of a semi-transparent white, reddish, or dark brown color. When quite thin two or more are often placed together (Plate XIII, Figs. 15, 16). This specimen has certainly over 20,000 disks, and at least seven different kinds, (1) white disks from *Conus* shells (similar to No. 2, p. 17); (2) bored white disks, sometimes ground on both sides, but often showing unground faces, probably different kinds; (3) disks with a thin pearly white layer on one side (similar to the *lillie* of Duke of York Island, made from *Nautilus* shells); (4) small white semi-transparent disks and red or reddish disks resembling *tapsoka* disks somewhat, but still not the same; (5) orange disks (similar to the *munbun* of the Duke of York Islands); (6) purplish disks (same as the *pirr* of the Duke of York Islands); (7) dark brown disks, large and small, some ground on both sides (large ones usually), some unground (some of these are probably same as the *mbui* of the Duke of York Islands).

(15) A very valuable possession in northern New Ireland is that known as *kaput* (Finsch, p. 44) or *manun* (Schneider, p. 61). There are three of these in the collection. These are listed as money by Parkinson, but no name for them is given. They are each composed of an elaborately constructed pendant attached to the ends of a string of white shell money (315 cm long in two cases, 150 cm in

the other). The disks are very uniform in size and color, 2 mm in diameter and correspond exactly to No. 4 (p.18). The make-up of the two longer strings differs slightly. One (Plate XXII, Fig. 2) has at each end and near the center a short section of *kokonon luluai*. In the center of the longer end section is a small snail shell. In the other string (Plate XX), one end has a small shell 1 cm long and the other 3 cm of *kokonon luluai*. About 30 cm from one end and 100 cm from the other is an area (8 and 8½ cm long) of *kokonon luluai*, broken by a small shell (7 mm long) in center, and an area (6-9 mm) of very thin red disks (20-25 per cm) on each side half way between the shell and the end. In the third specimen (Plate XXI) the string has been broken and tied together again, which may account for its being so much shorter. The ends are nearly plain, one having a couple of larger disks and the other a few black seeds. Near the center of the string is a short area (3 cm) of *kokonon luluai*, with a small white shell in the center.

The pendants all have as center-piece a large reddish black seed (from some sapotaceous fruit), somewhat kidney-shaped, opened at the base to allow for making the holes for fastening the attached ornaments. In the larger and more elaborate pendant (Plate XX) the seed is 5½ cm long and has fastened around the edge, except for about 4 cm at the base, a stiff band composed of two rows of small black seeds with a center row of white shell disks fastened between small strips of stiff fiber. On each side of the seed is the large (2 cm diameter) greenish operculum of *Turbo petholatus* L., enclosed by a band sewed to the seed, and between this and the outer band a row of black seeds. To the ends of the broad band below (the long string of shell money is fastened to the middle of this band above) are fastened on each side three pendants, four with shells and two with seeds at the ends. Each of the two seeds has a pig's incisor fastened inside as a sort of clapper, while from one of the shells a pig's anterior premolar is suspended. The strings are about 4 cm long. Two are made of *kokonon luluai*, two of black seeds, one of mixed beads, and one of beads and seeds.

The two other pendants are more simple, having only the outer band around the edge (one with three rows of black seeds, the other with two rows of dark blue beads and a center row of white beads). One has a single pendant string of *kokonon luluai* on each side below, with a shell at the end. In the other the outer edge only of the large seed remains, suspended to which in the center is a large soft cocoon



of a bag-worm moth (Psychidae). Either there were no string pendants to this specimen, or they have been lost.

There are also in the collection several similar seed ornaments, but without the long string of shell money. One of these (Plate XXII, Fig. 1) has short string pendants similar to those of Fig. 2, but with a tooth of the flying fox fastened in each shell. Another one (Plate XXII, Fig. 3) is somewhat similar, but with a dog's canine fastened in one of the shells.

Shell disk money, while not so plentiful as in New Ireland, was also used throughout most of the Solomons, Santa Cruz Group, Banks Islands, northern New Hebrides, and New Caledonia. The chief centers in the Solomons were the Shortland Islands and southern Malaita, with the neighboring coasts of San Cristobal and the islands between, especially Ulawa (Ivens, pp. 390-392). In 1929 shell money was still being made at Auki, off Malaita. The small red money of Ulawa was the most valuable. Red money was traded as far west as Bougainville, and was probably made also in the central Solomons. As late as 1925 Collinson (p. 78) reports red money still in use in the central Solomons, and worth about five dollars a fathom. Red money was highly treasured and held by the chiefs and rich men, and did not circulate as freely as the white, which was also used extensively for ornaments. A special crude money was made in the Shortlands for use in the interior of southern Bougainville (Frizzi, p. 45, Fig. 66). In northern Bougainville, according to Parkinson (p. 494), the shell money in common use was known as *biruan*. It was made of light colored disks and imported from Carteret Island. In the Parkinson collection are a number of strings of this money. The disks are a brownish or bluish white running about six to the centimeter,  $4\frac{1}{2}$  mm in diameter, uniform in size, but not very well rounded. They are made from *Conus* or similar shells. The string is a bundle of strong brownish fibers, the free ends (about 10 cm) only being twisted (Plate XXIII, Fig. 1). Three other Bougainville strings obtained from Parkinson are of a different make from the above, though similar. The disks are somewhat smaller, nicely rounded, and of a bluish white color (Plate XXIII, Fig. 2). The cord is twisted. One string (180 cm long) has four short stretches of red disks, with a few black seeds alternating with white disks on each side (Plate XXIII, Fig. 3).

The red money of southern Bougainville is represented by a string (Plate XXIII, Figs. 4-6) 220 cm long, strung on two strands of European pack thread, with the ends tied together. At more

or less regular intervals there are eight short stretches of black and white disks (Plate XXIII, Fig. 5), or white disks and black seeds (Plate XXIII, Fig. 6). All the disks, including the white, are bored, thus differing from the previously described strings. Another string (Plate XXIII, Fig. 7) with no definite locality, but presumably from the eastern Solomons, is the same as the last except it is strung on a strip of bark, as is also a string of white money from Malaita (Plate XXIII, Fig. 8). The disks are grayish white, 6 mm in diameter, but not ground down smooth, as they show breaks around the edges. There are a few short stretches of black seeds alternating with the white disks (Plate XXIII, Fig. 9). There are also in the Parkinson collection many strings of a mixed variety (Plate X, Fig. 3) made of crude white shell disks alternating with disks of coconut shell. These, according to Parkinson, were made on Tasman, and traded to other islands, especially Lord Howe. Krause (p. 154) illustrates a similar specimen obtained in Nissan.

A peculiar kind of shell money, if it really is money, is illustrated on Plate XXIII, Fig. 10. There are a number of pieces of this a meter or more in length. The disks are from *Conus* or similar shells, well finished, about 8 mm in diameter and 2 mm thick. They are strung on two strands of strong native cord, and this in turn fastened to a band of the same material. The band is formed of twelve strings, plaited in pairs in two three-ply bands, one string of the inner strand on each band being passed over the strings on which the disks are strung at each turn, thus binding all these firmly together. At intervals of 40 cm or so the shell disks are omitted, and purplish red feathers (red cloth is sometimes substituted) are caught under the binding cords. These specimens were obtained from J. G. Peace of New Caledonia, and labeled "Shell money from the Solomon Islands." Whatever may have been its use in the Solomons, if it really came from there, the specimen is undoubtedly an ornamental band from New Guinea, probably from the southeastern coast.

From Santa Cruz south the shell disks were made chiefly from white or light colored *Conus* or similar shells. While strings with definite values were in circulation, the disks were used largely on ornaments, especially in the New Hebrides. Here arm-bands covered with small shell disks were highly valued, and different patterns and designs were formed by using black disks (from coconut shell) with the white. In the Banks Islands shell money was of special importance because of its close association with secret societies (Codrington, p. 325; Rivers, Vol. I, p. 166).

In New Caledonia there were at least three different varieties of shell money. The most valuable kind is made of the smallest shell disks or rather beads known from this region (Plate VI, Fig. 9). A short string of these beads is made up with other objects into fairly uniform units. Two specimens of this kind were obtained in 1911 from the Pombias of northern New Caledonia. The most perfect specimen (Plate XXIV, Fig. 1) has a total length of 54 cm. The shell beads are very uniform in size,  $1\frac{1}{3}$  mm in diameter and 1 mm thick, brownish gray in color. The string is 34 cm long, with a short tassel, made of the brown fur string<sup>1</sup> so common in New Caledonia, at one end, and a more elaborate ornament at the other. This is a string 16 cm long, on which short pieces of some small bone alternate with wrappings of red fur. There is a small fur tassel at the end, and in the center a woven square with two pearl-shell pendants and a slender piece of bone fastened on each side. The bone is cut so as to make it look like a short string of beads.

In the second specimen (Plate XXIV, Fig. 2) the shell beads are still smaller, about 1 mm in diameter and run thirteen to fifteen to the centimeter. The general structure is the same, except that there are two woven rectangles with their pearl-shell pendants, each somewhat smaller than the one in the first specimen. The string is very old and has been repaired a number of times. The string of shell beads is 32 cm long, and the whole specimen 60 cm long.

This kind of money (called *ter mawon*) was said to be used only by the chiefs. It has a standard value, and in 1911 was worth about \$10.00, though the natives said that formerly its value was at least double that amount. They remarked that it corresponded to the gold money of the white man.

The second kind (*weni*) of shell money is put up in long lengths (usually about fifteen feet) and measured by fathoms and fractions of fathoms. The beads are about 2 mm in diameter and 2 mm thick, quite uniform in size in the strings seen (Plate XXV, Fig. 3). The color is a light gray. The end of a string was also sometimes ornamented, as illustrated by this specimen. This is the money most commonly used. It was worth in 1911 about \$1.50 a foot, but it had also, according to the natives, decreased about one half in value. This corresponds to what Lemire (*Voyage à pied en Nouvelle*

<sup>1</sup>This is made by wrapping the separate strands of the string, before they are twisted, with hair plucked from the flying fox. The string is dyed to give it the reddish brown color.

Calédonie, p. 110) says it was worth about 1880. Père Lambert (Moeurs et superstitions des Neo-Calédoniens, p. 168) says half a fathom would buy a canoe.

The third variety (Plate XXV, Fig. 2) consists of shell disks or beads of varying size ( $1\frac{1}{2}$ -3 mm diameter) kept at intervals of  $\frac{1}{2}$  to 1 cm by tying knots in the string on each side of the disks. This was worth in 1911 about six cents a foot, and was used extensively by the traders in dealing with the natives.

All these different kinds of money were said by the natives to come from the west coast, but they could give no information regarding their origin. The disks or beads are all made from a small *Conus* or similar shell.

In the case of the first variety each piece is kept in a special wrapper or pocketbook. This is made of a rectangular piece of soft bark, about 10 by 15 cm, bound around the edges with fur string (Plate XXV, Fig. 4).

In the J. G. Peace collection are several strings of the "cheaper sort" of money from the Loyalty Islands (Plate XXV, Fig. 1). These are about 70 cm long. The string is made of two twisted strands of some coarse fiber (*Pandanus*?). Most of the strings are made up of very dark gray disks of coconut shell. These are about 6 mm in diameter and from  $1\frac{1}{2}$  to 3 mm thick. The hole is about 1 mm across. At intervals of 2-6 cm there are one to three white shell disks 5-6 mm in diameter and rather thin (.6-.8 mm). These are from the base of some shell (*Conus*?) and have not been ground and rounded on the outside.

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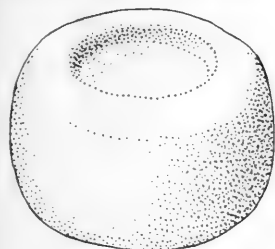
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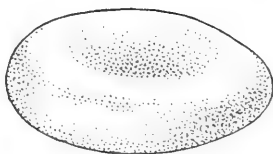
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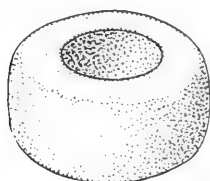
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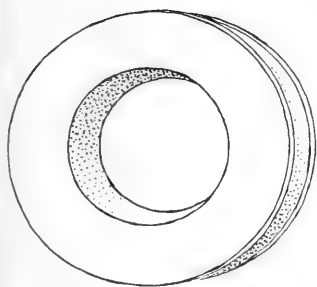
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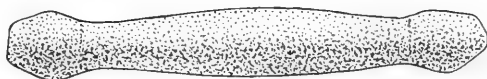
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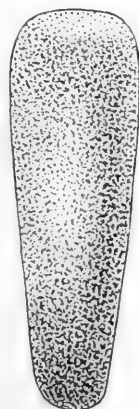
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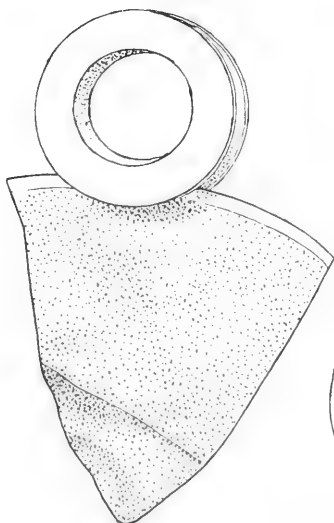
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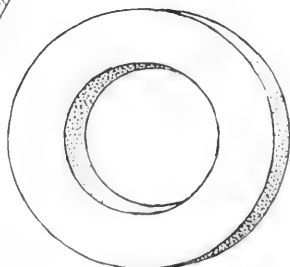
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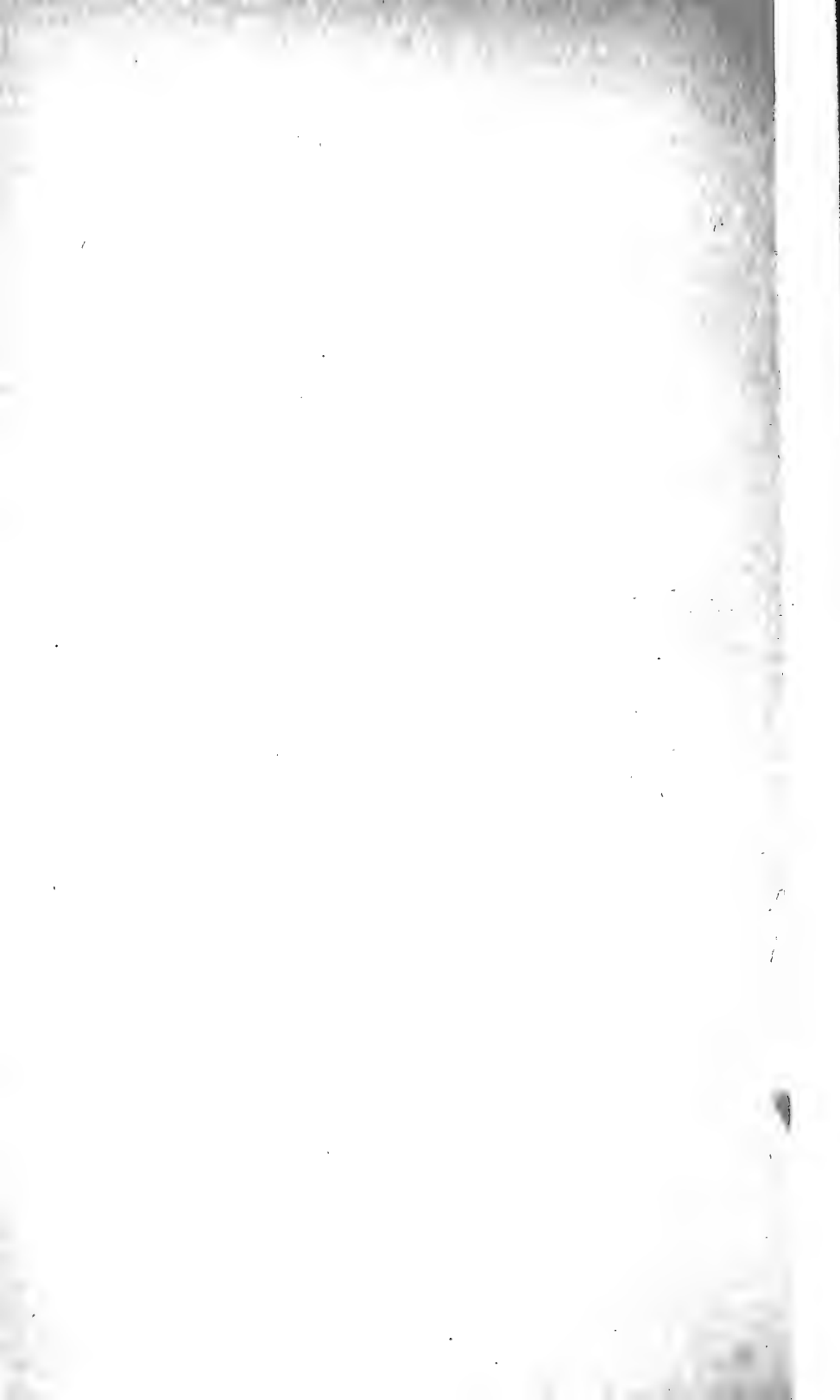
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10

SHELL MONEY RINGS AND STONE TOOLS

One-fourth actual size



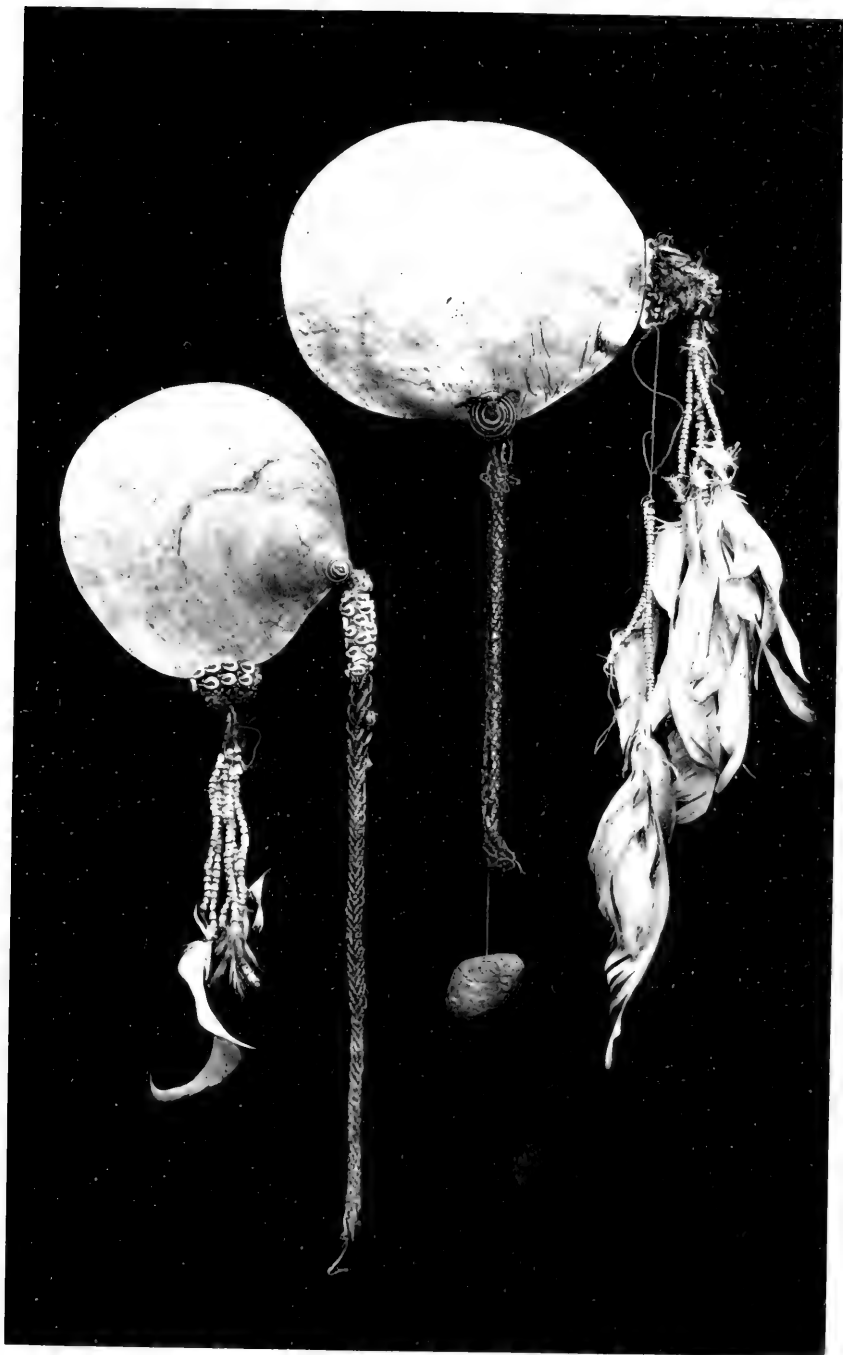




SHELL ARM-RINGS AND BAG. EASTERN NEW GUINEA

Almost one-third actual size





PEARL SHELL MONEY. NEW BRITAIN

Almost one-third actual size





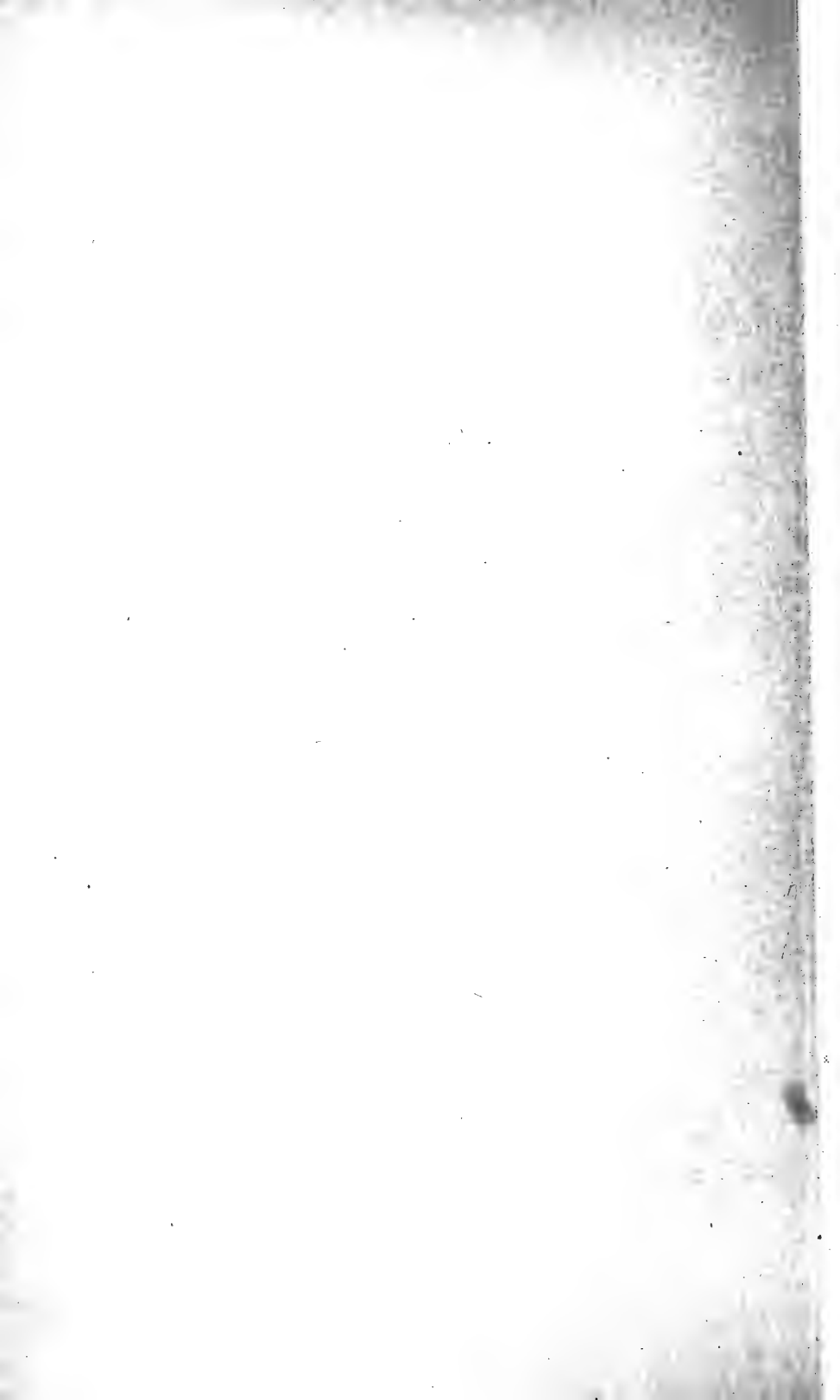
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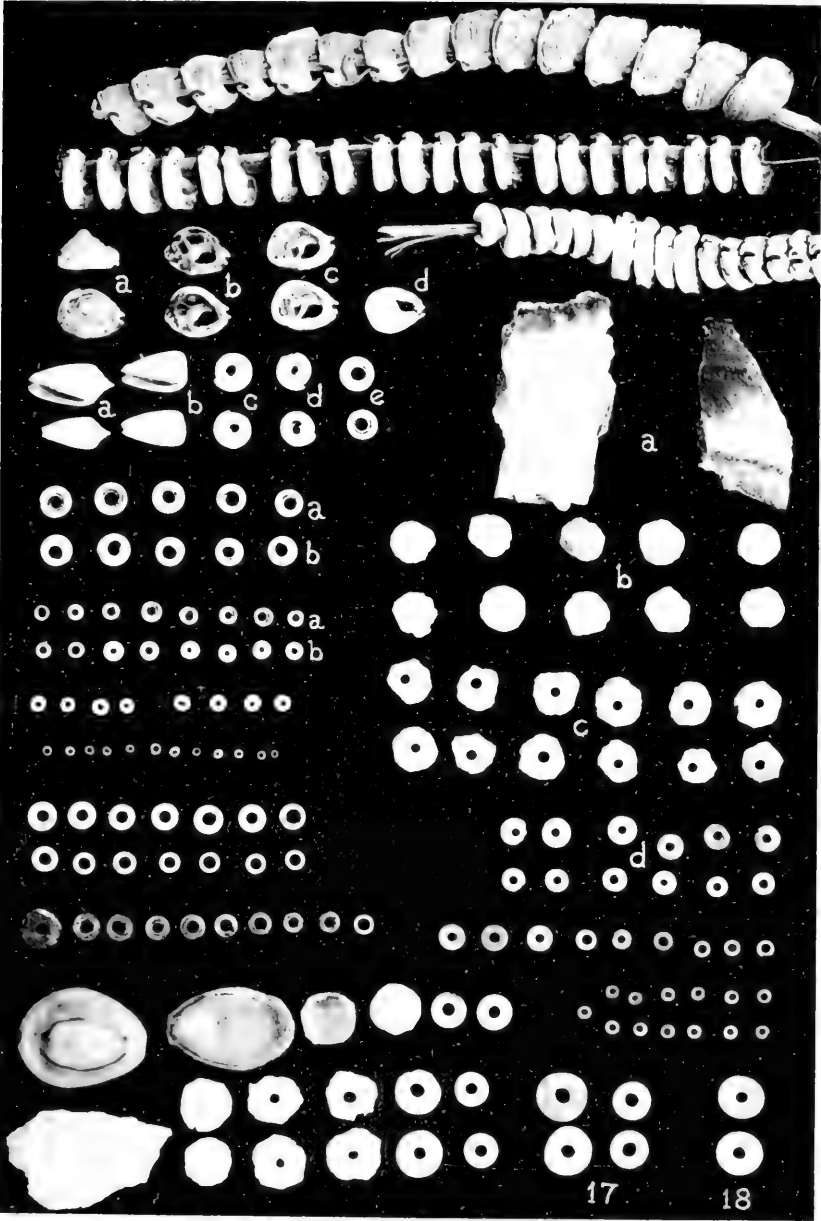


2

GRINDING STICK AND PLATTER FROM TAMI

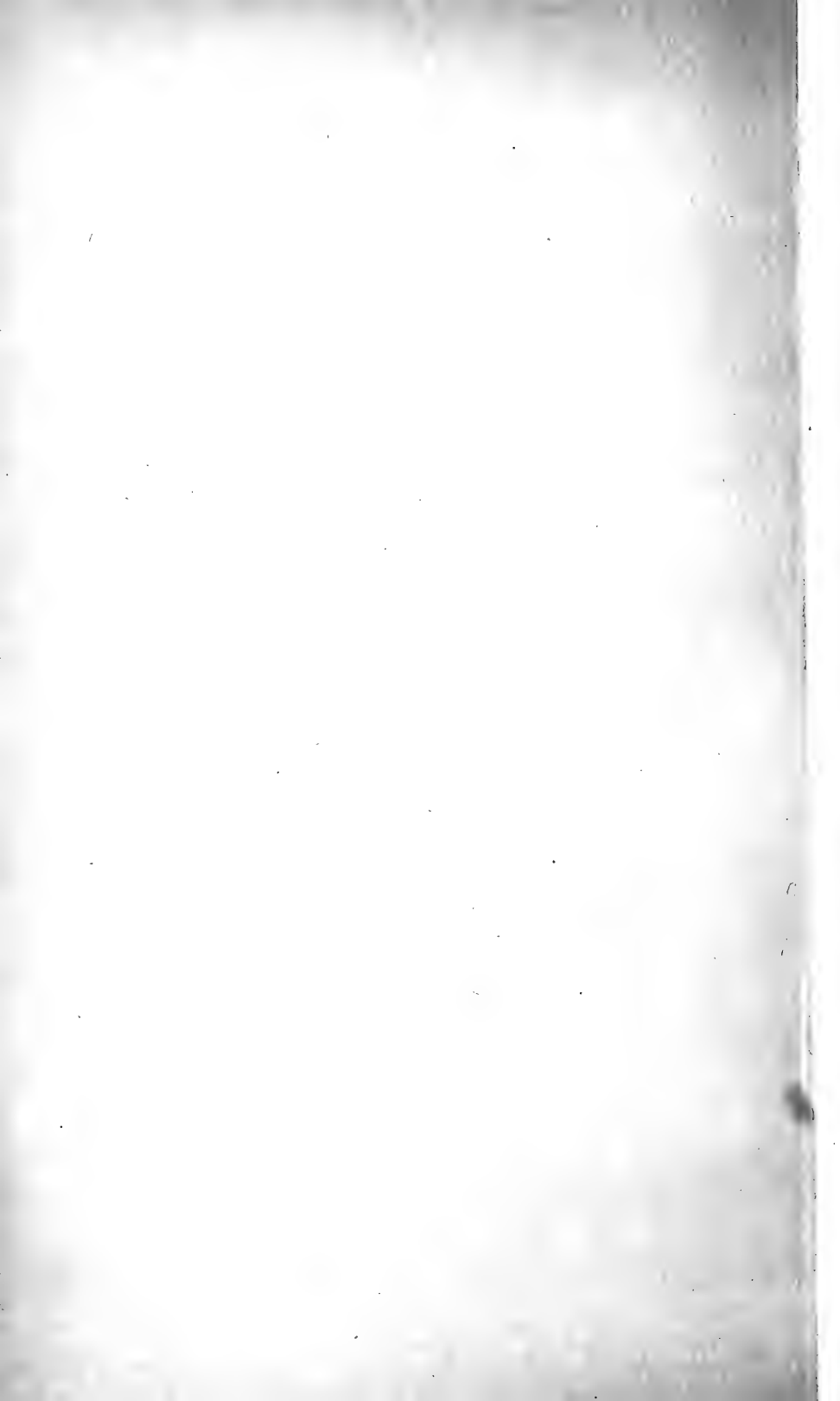
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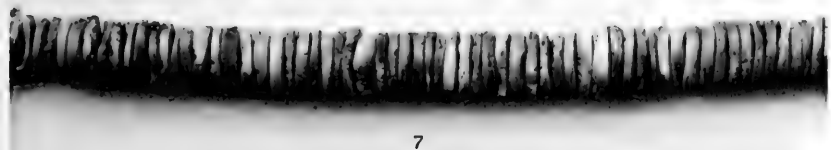
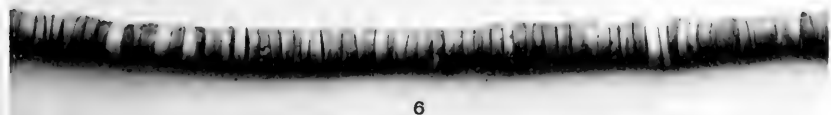
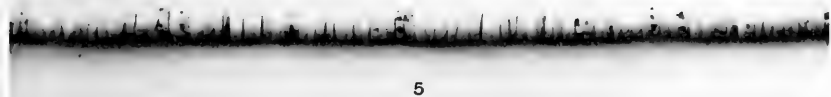
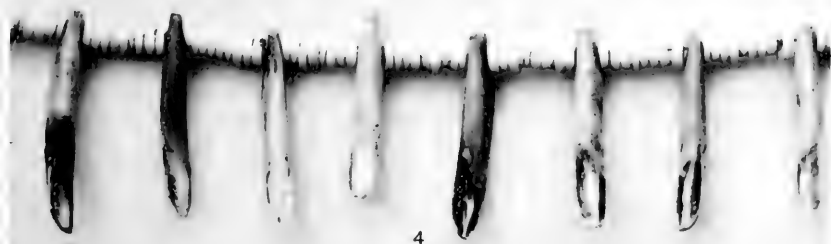
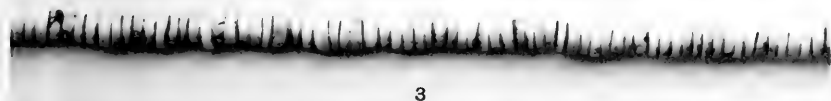
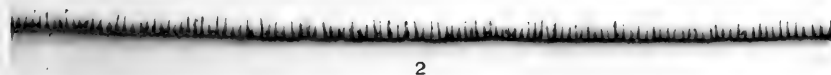


SHELL MONEY AND MONEY DISKS, FINISHED AND UNFINISHED

Actual size

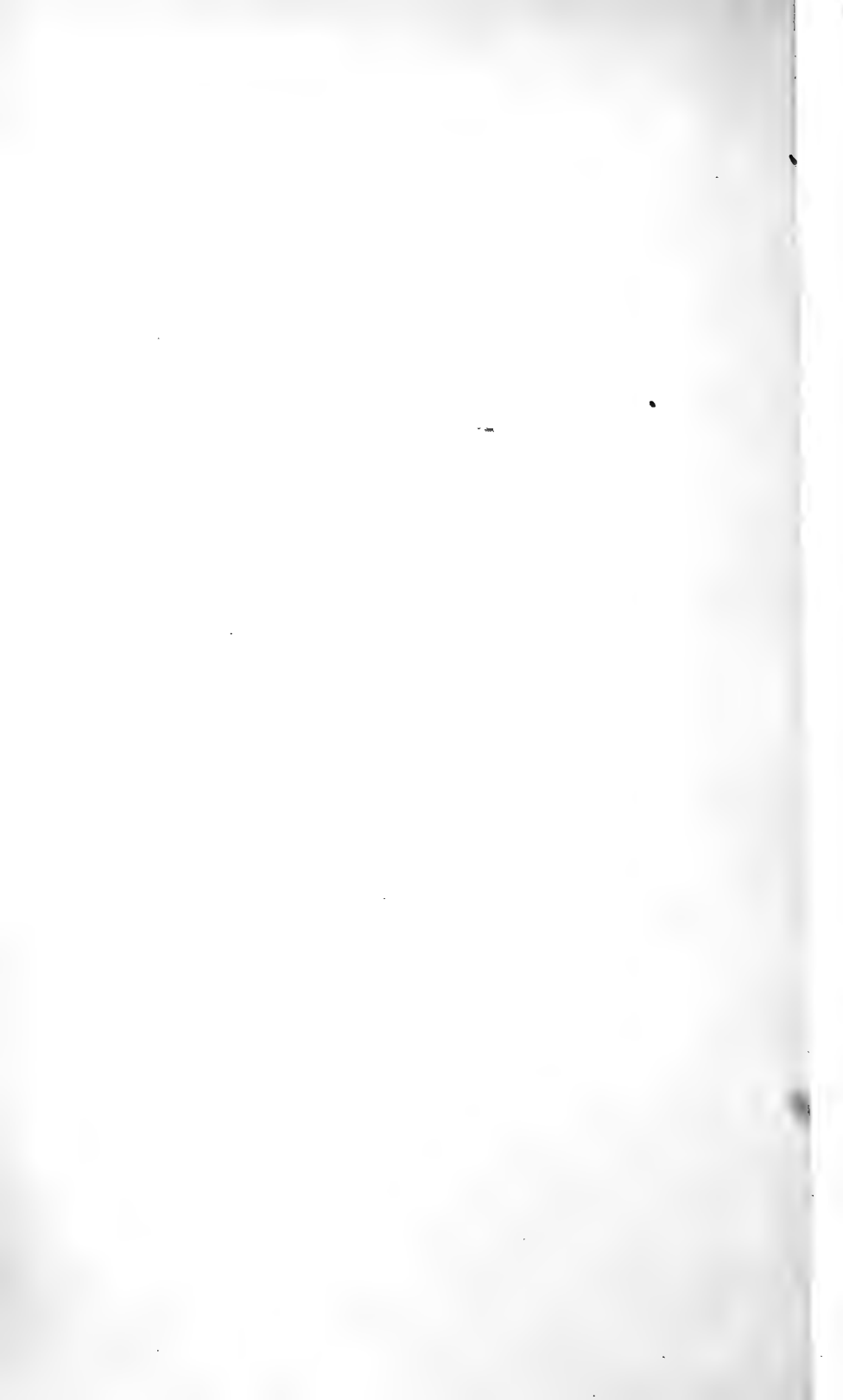


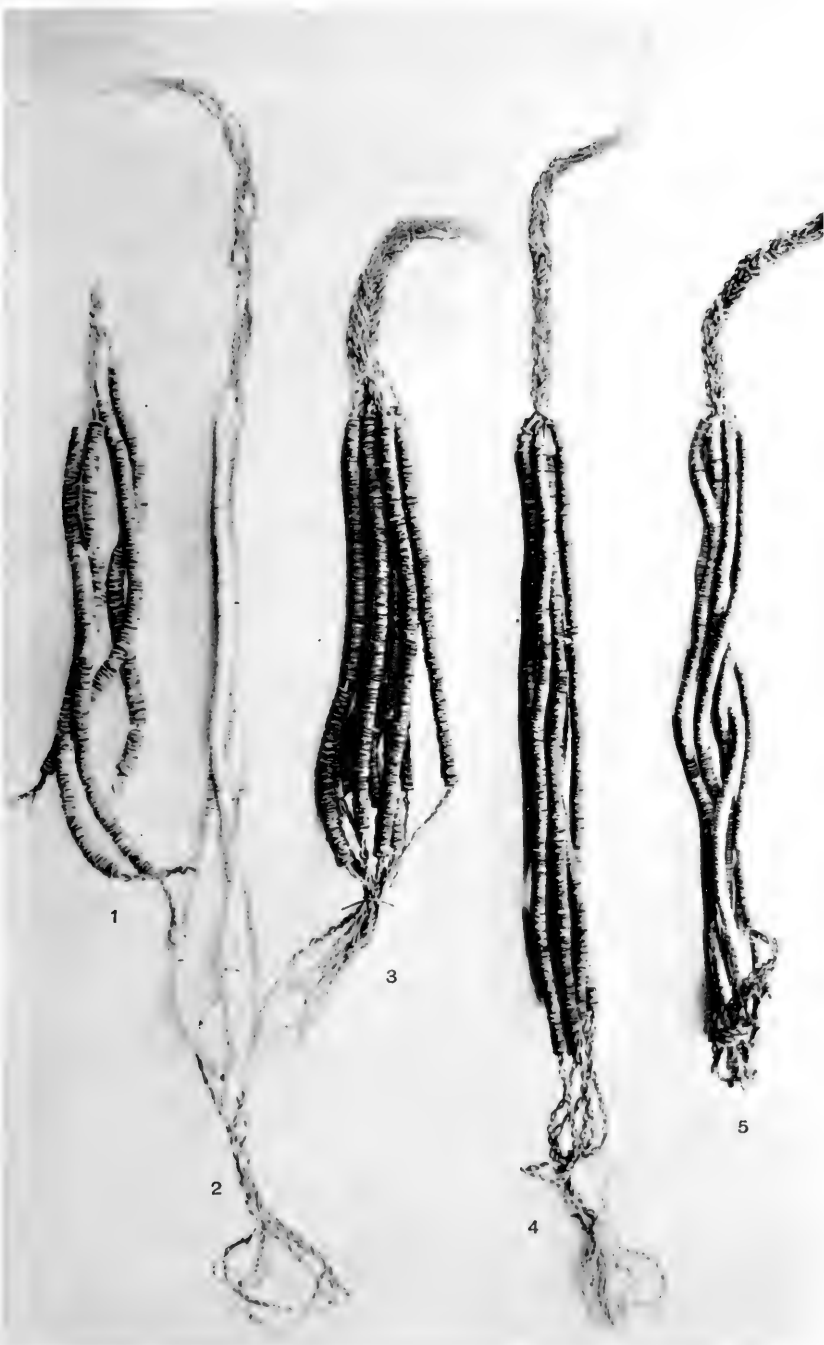




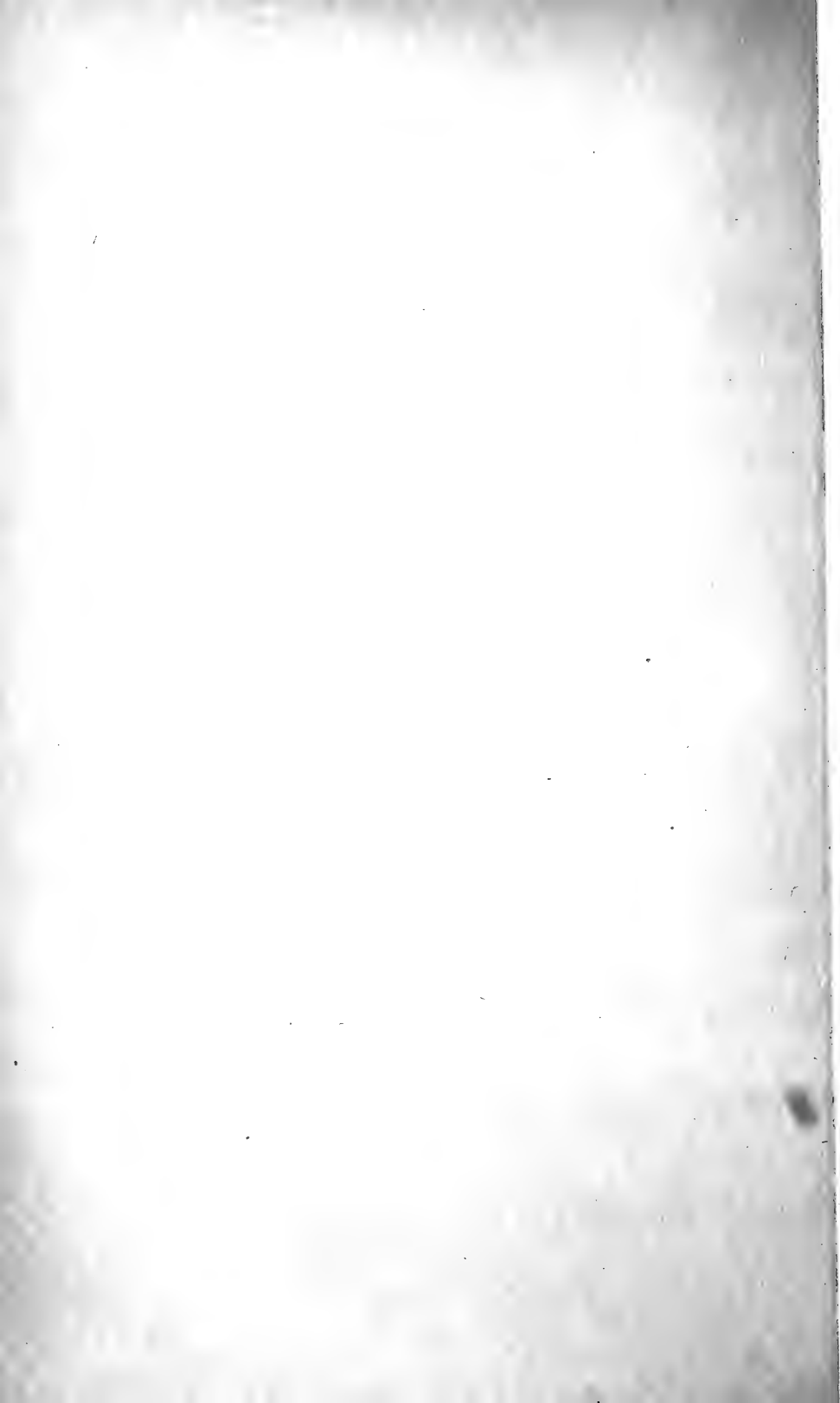
SHELL MONEY STRINGS

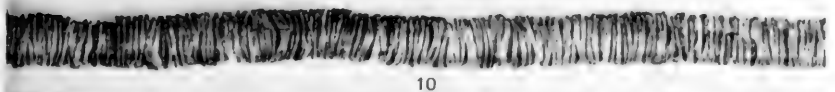
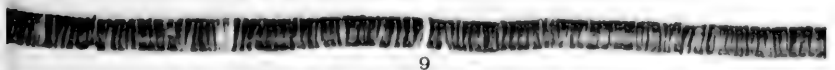
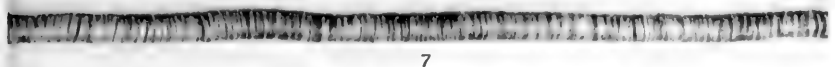
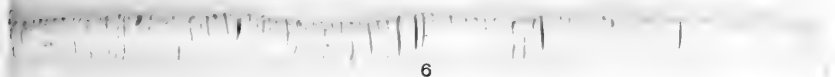
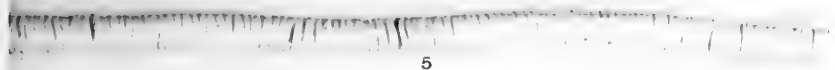
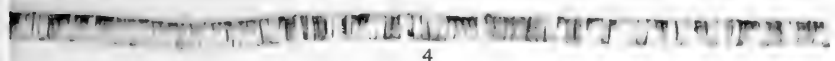
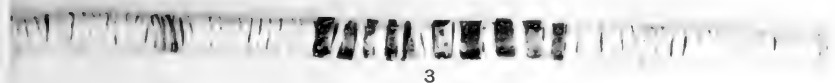
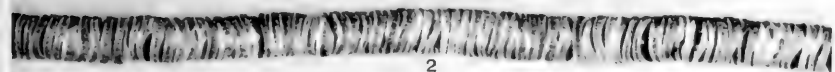
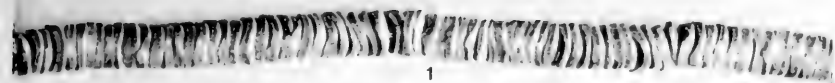
Actual size





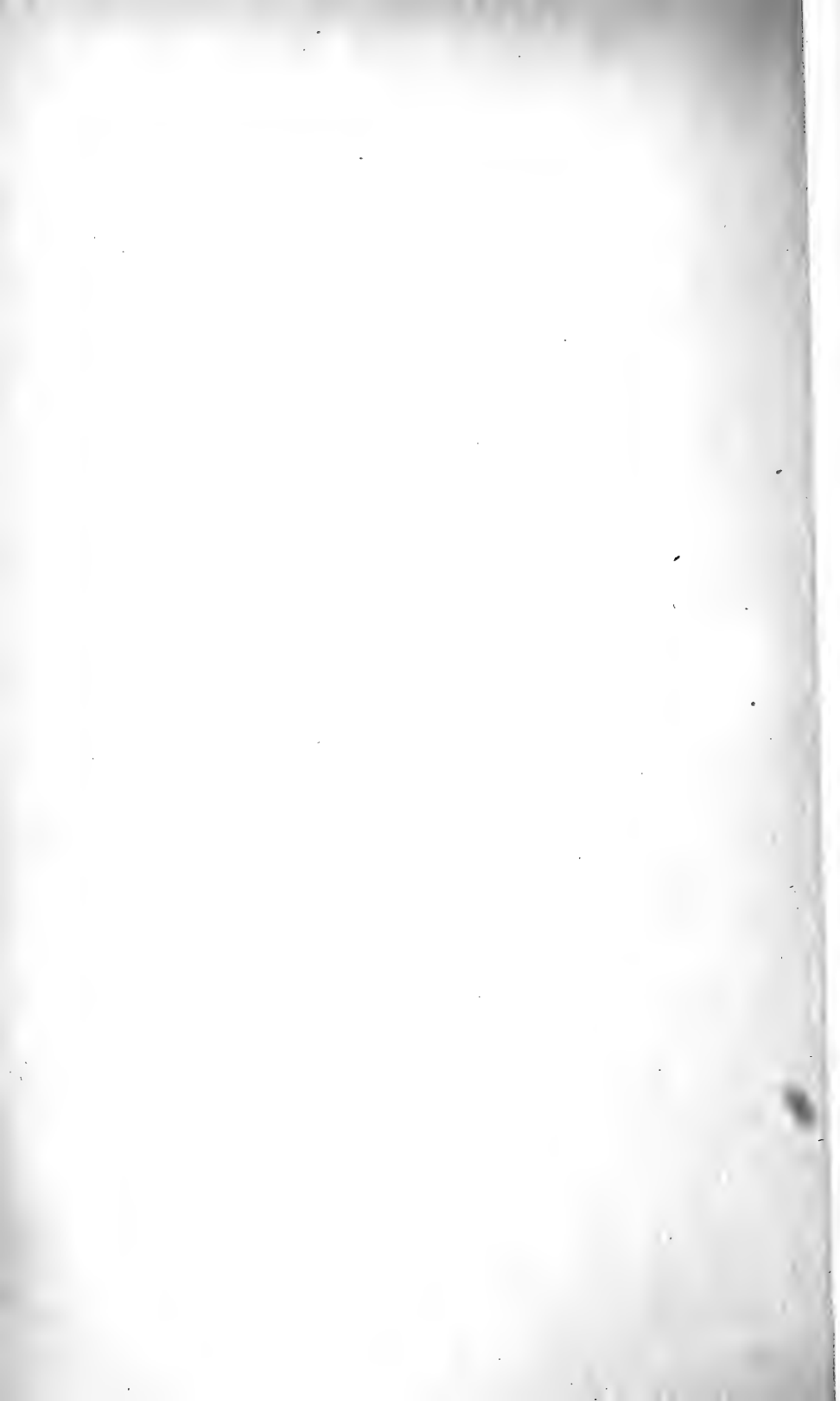
BUNCHES OF PELE  
One-third actual size





STRINGS OF PELE

Actual size





1



2



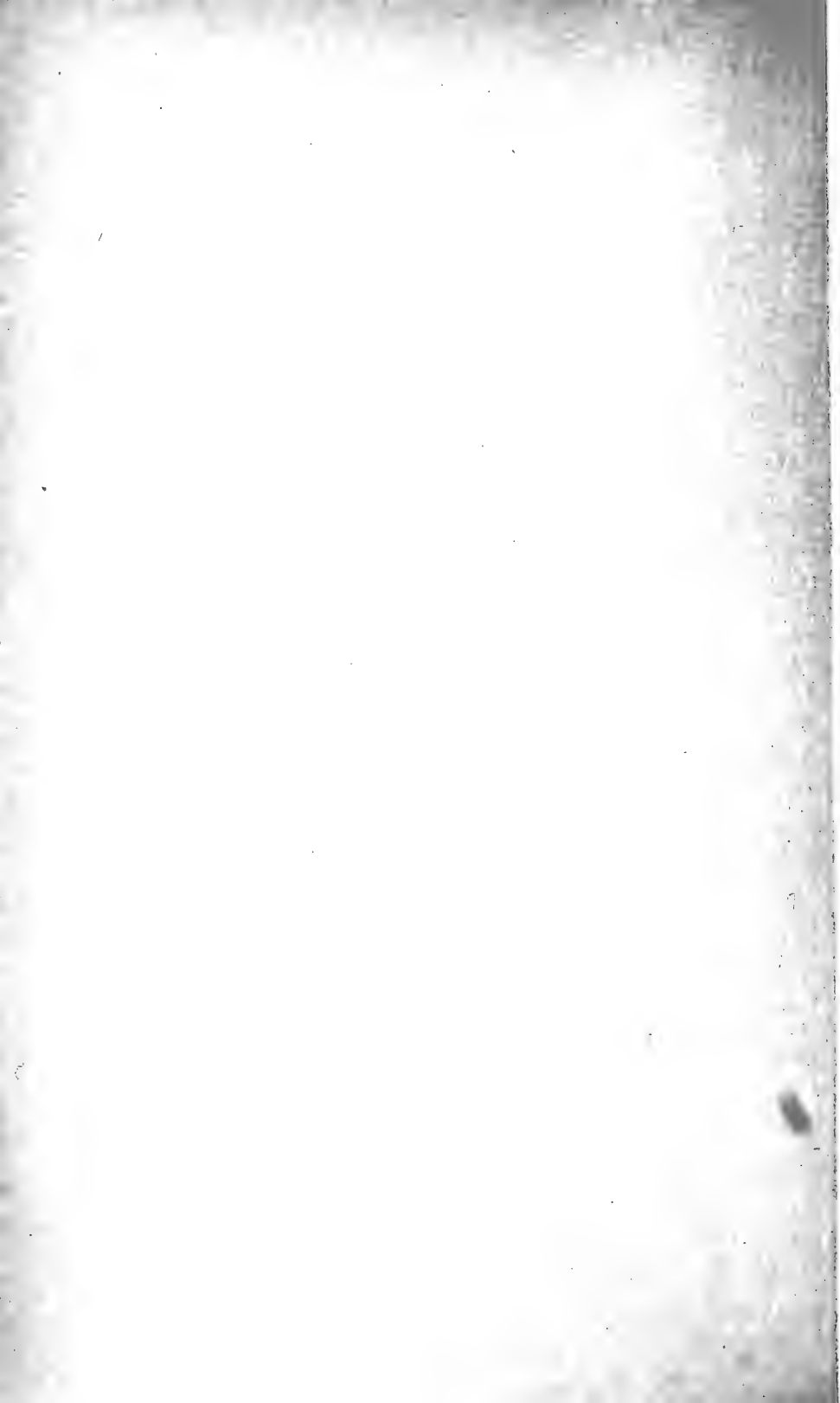
3

DRILLS FOR BORING SHELL DISKS

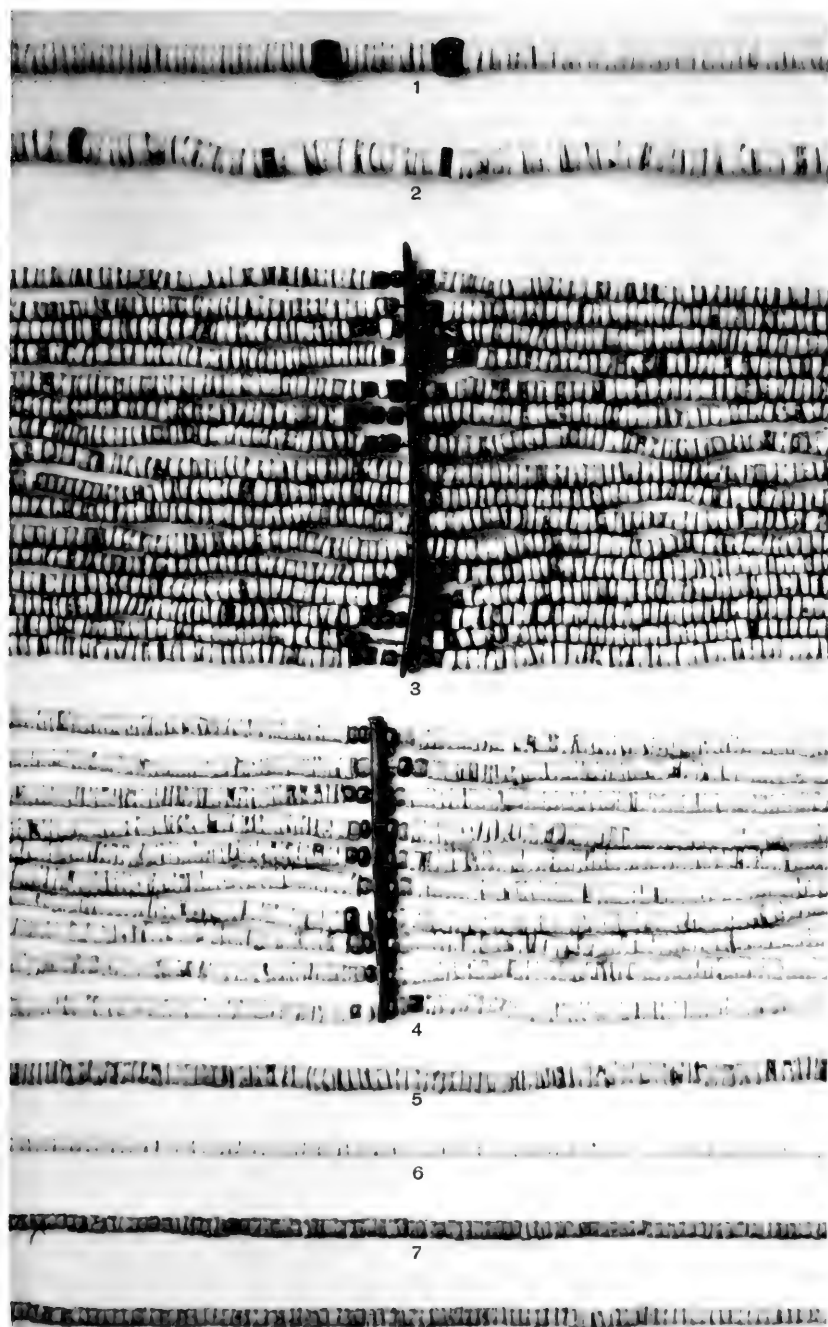
One-fifth actual size

TASMAN ISLAND MONEY

Actual size

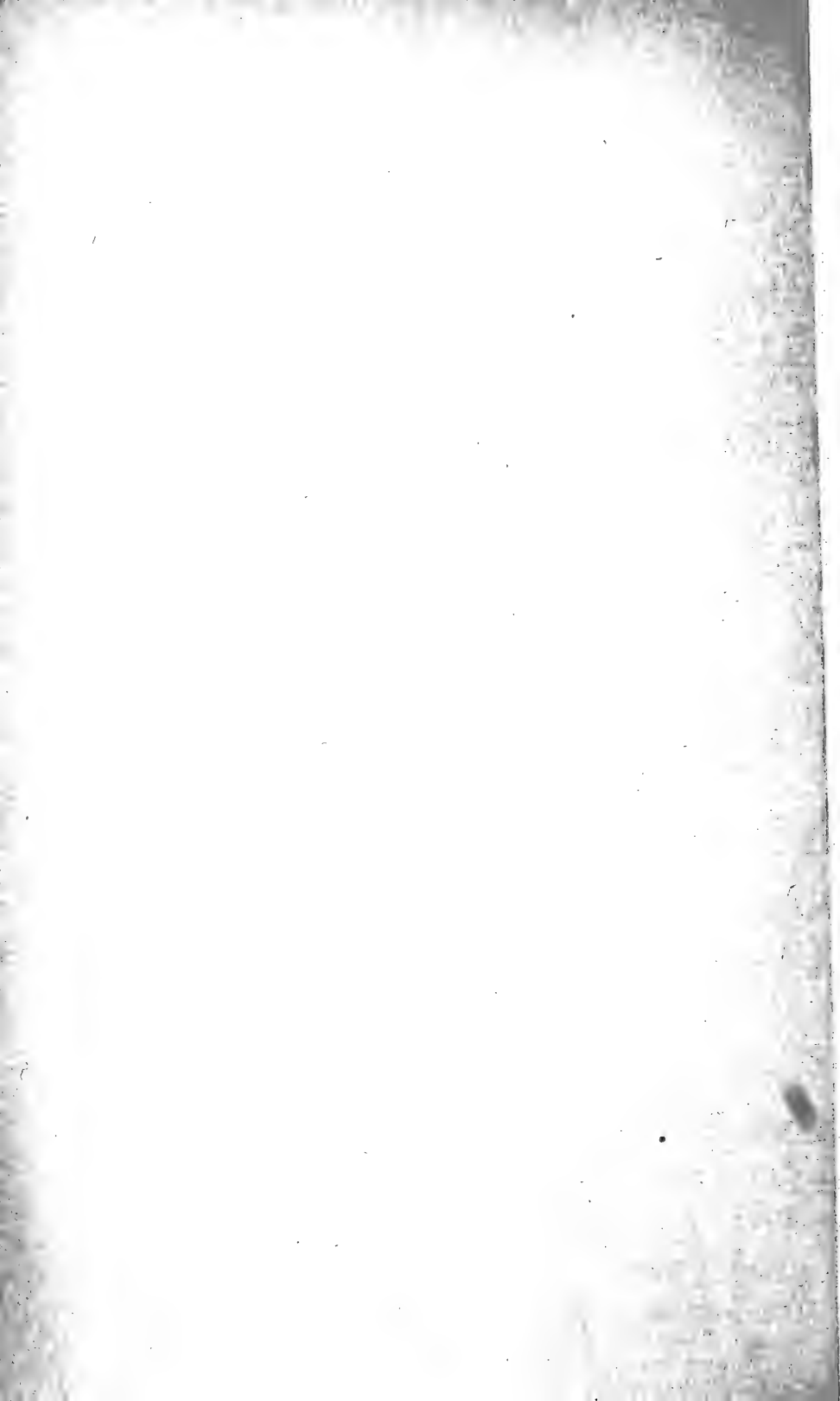


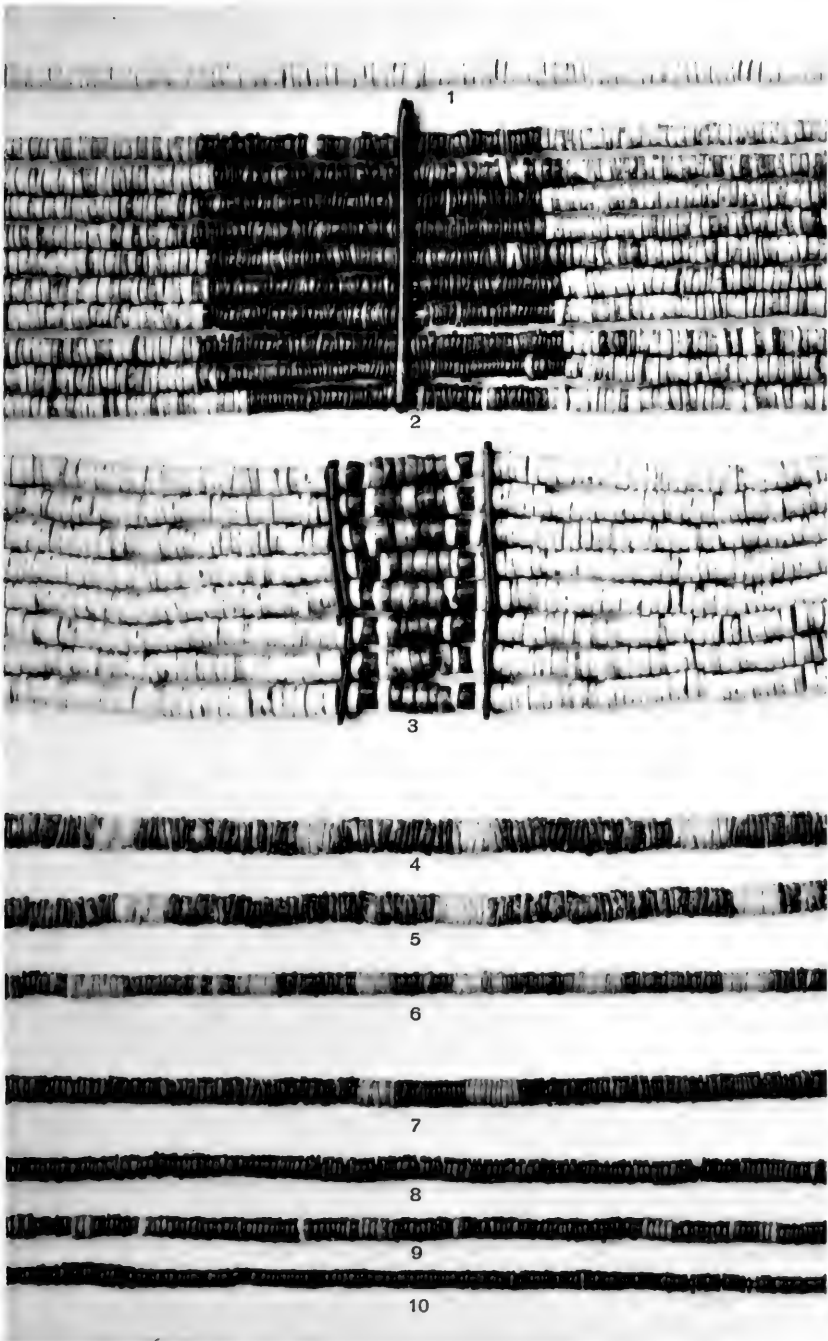




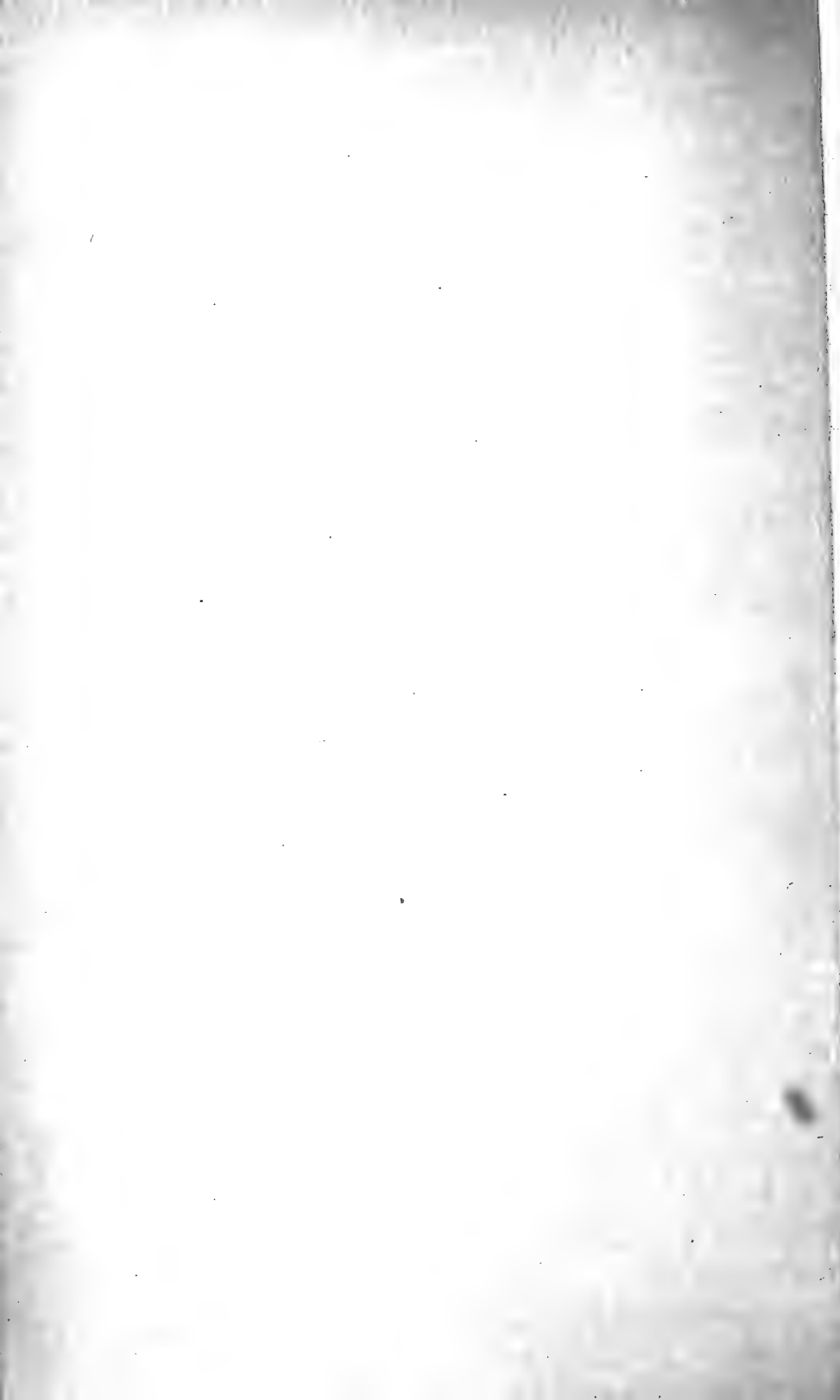
BELTS AND MONEY STRINGS MADE FROM CONUS OR SIMILAR SHELLS,  
NEW IRELAND

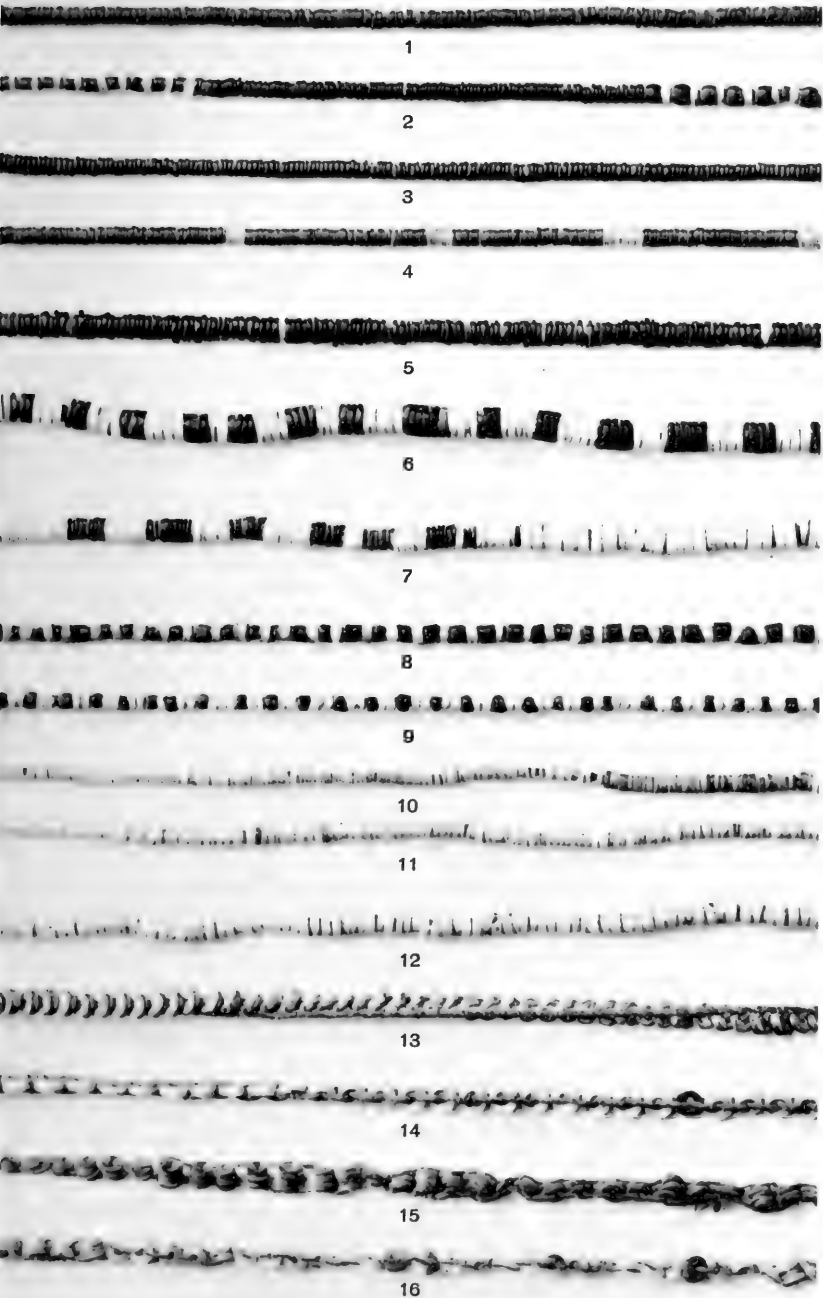
Actual size



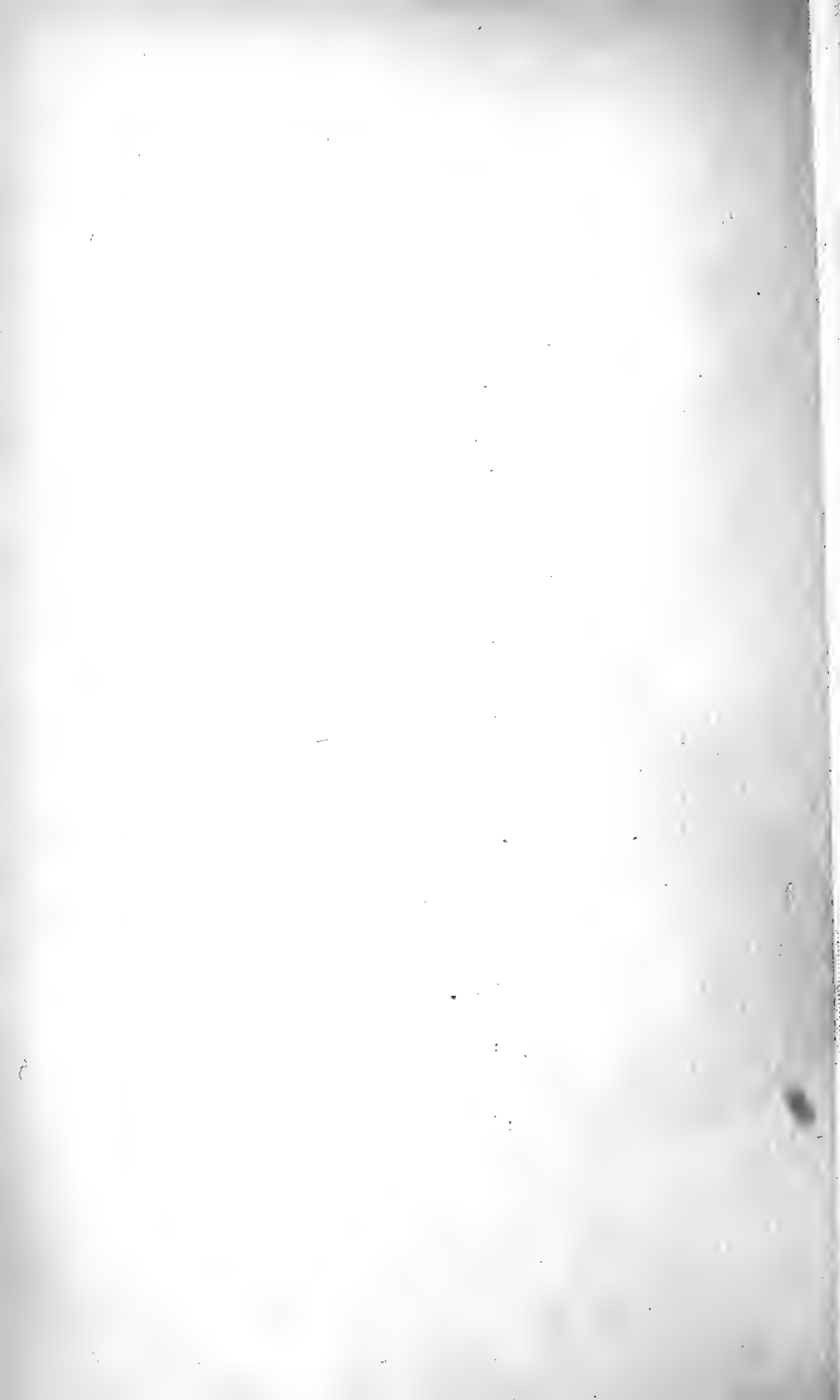


BELTS AND MONEY STRINGS OF DRILLED DISKS. NEW IRELAND  
Actual size





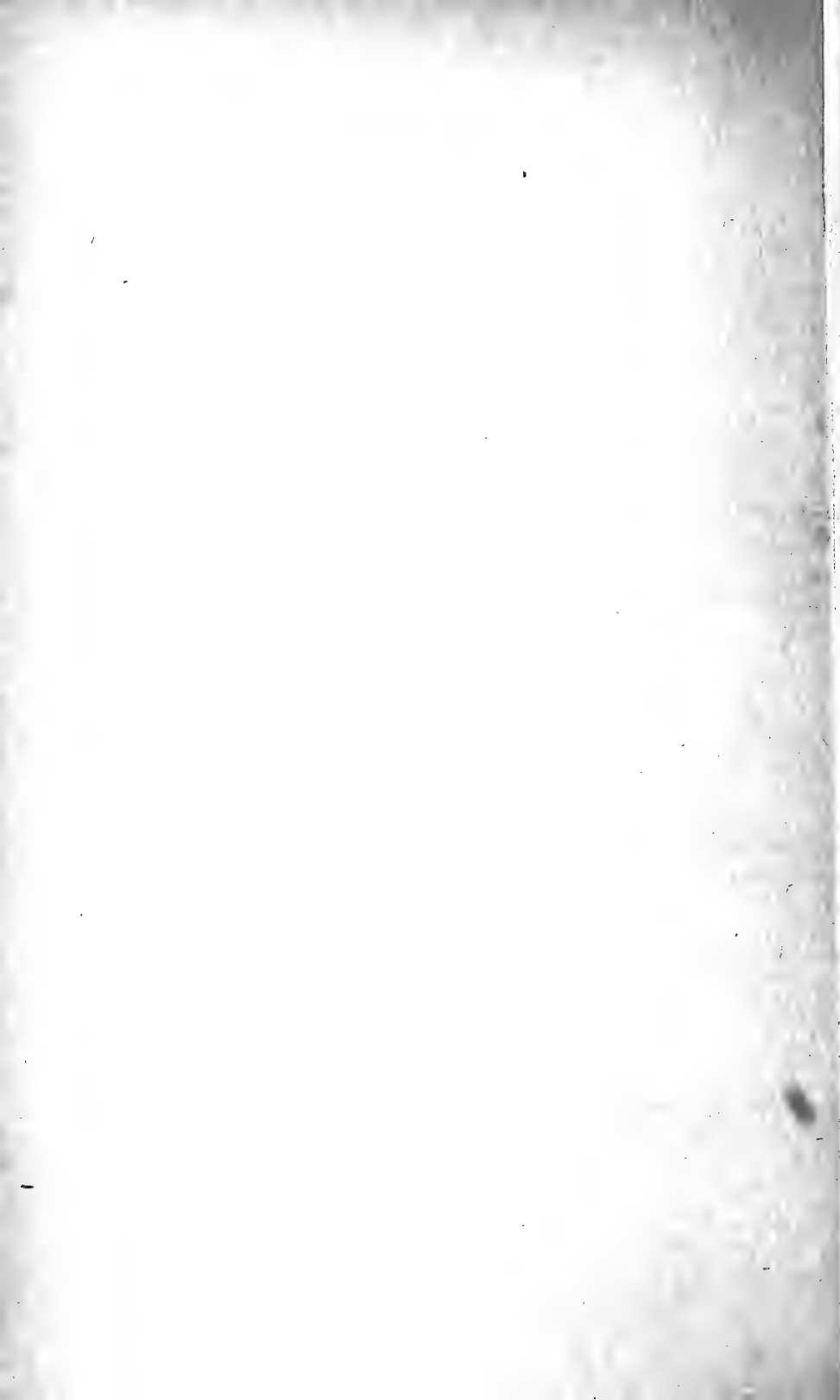
BORED AND MIXED MONEY STRINGS. NEW IRELAND  
Actual size



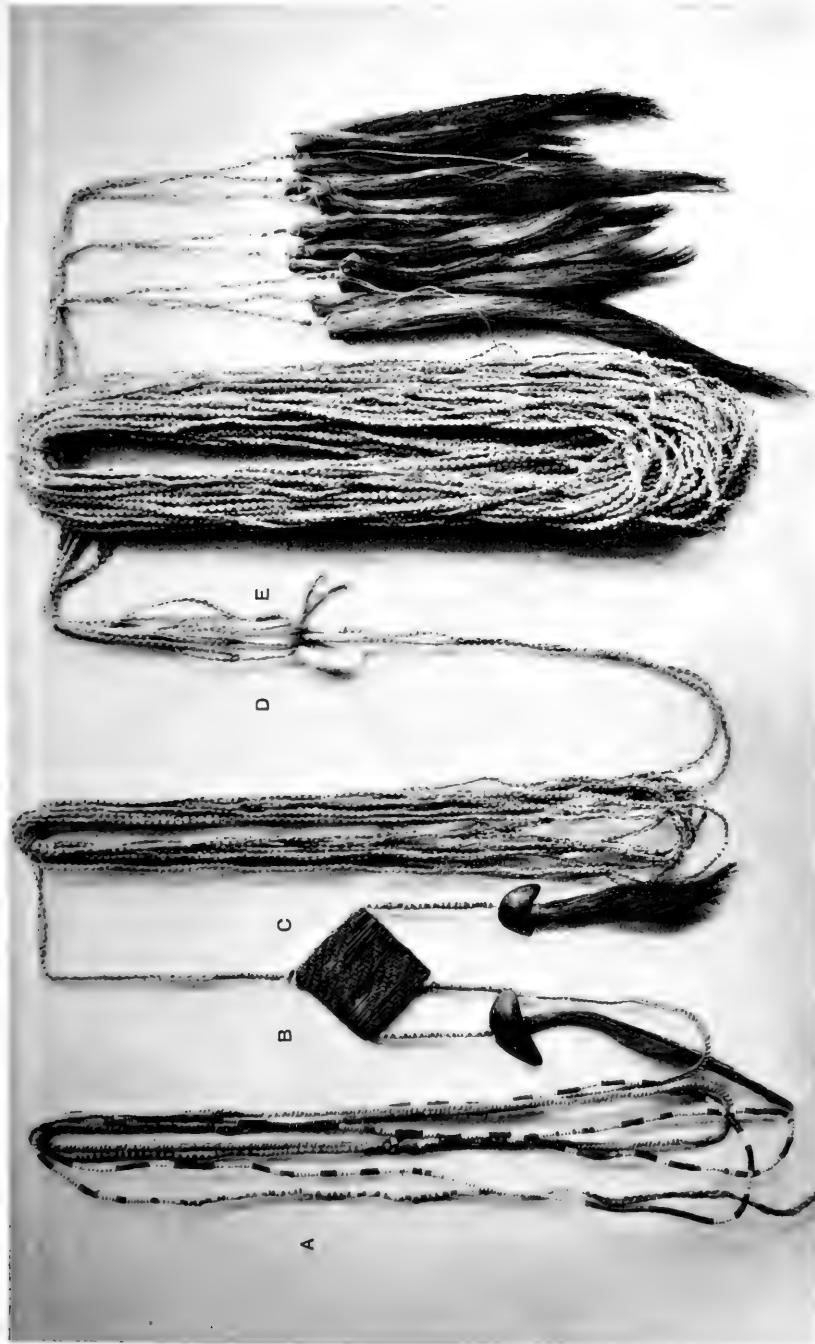


BIROK OR PIG MONEY IN WRAPPER. NEW IRELAND

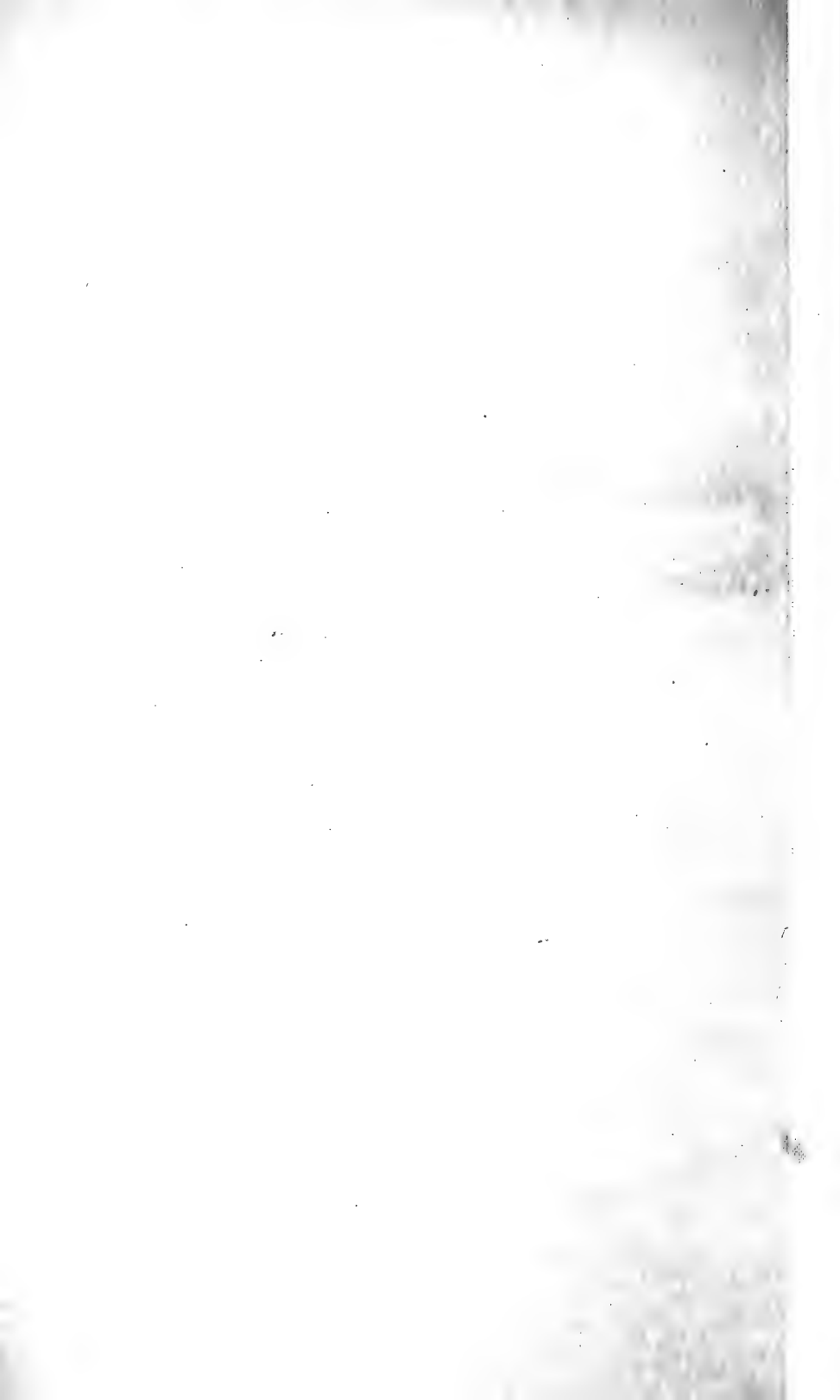
One-half actual size

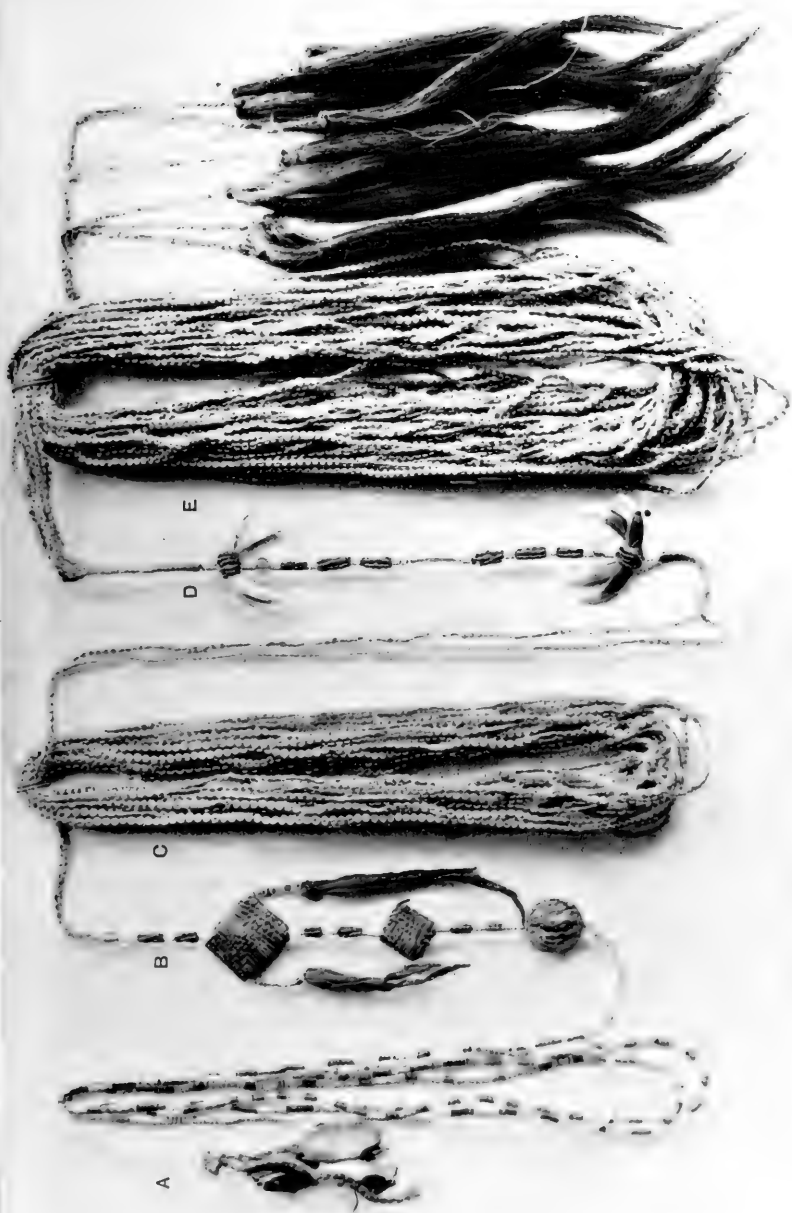




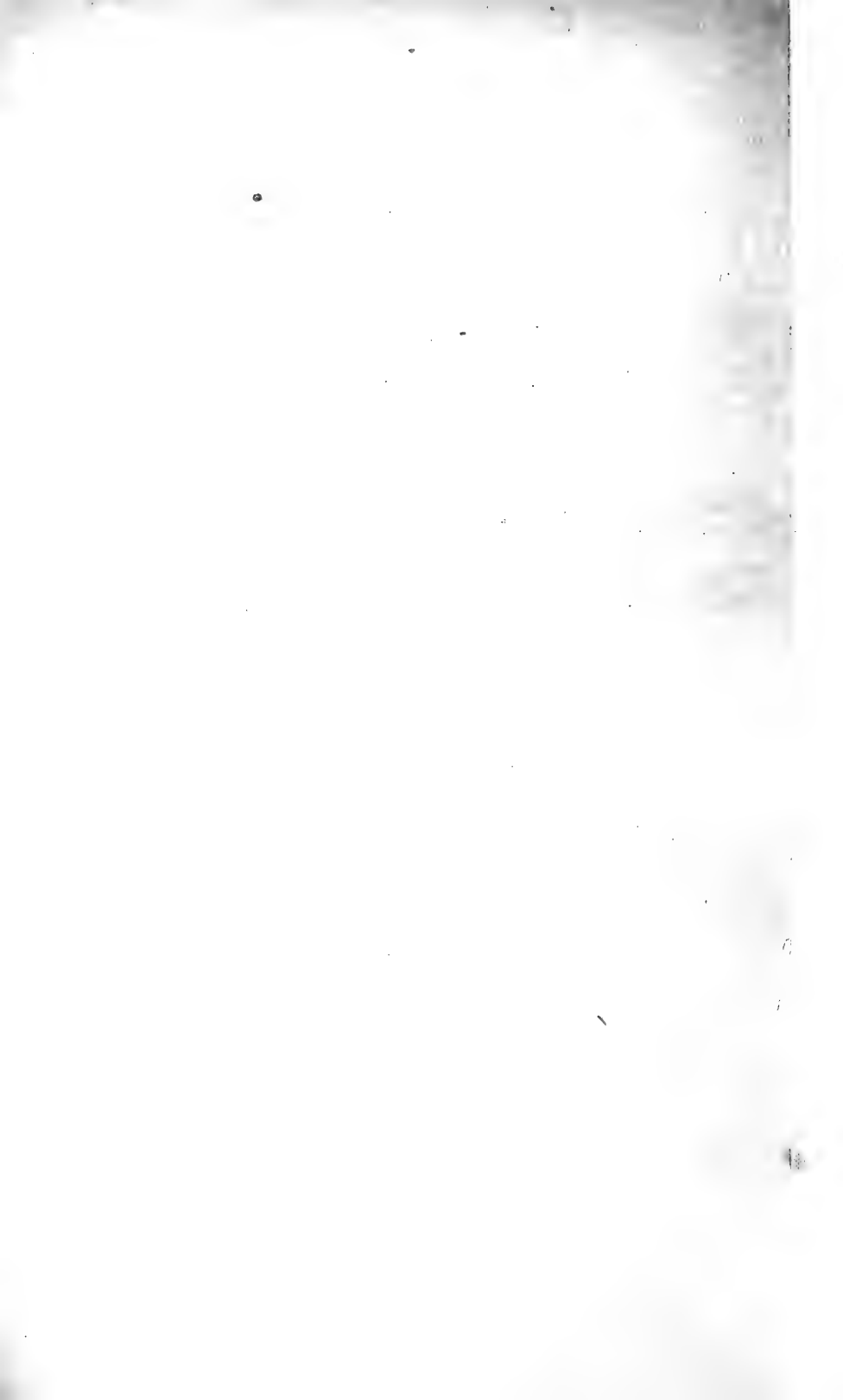


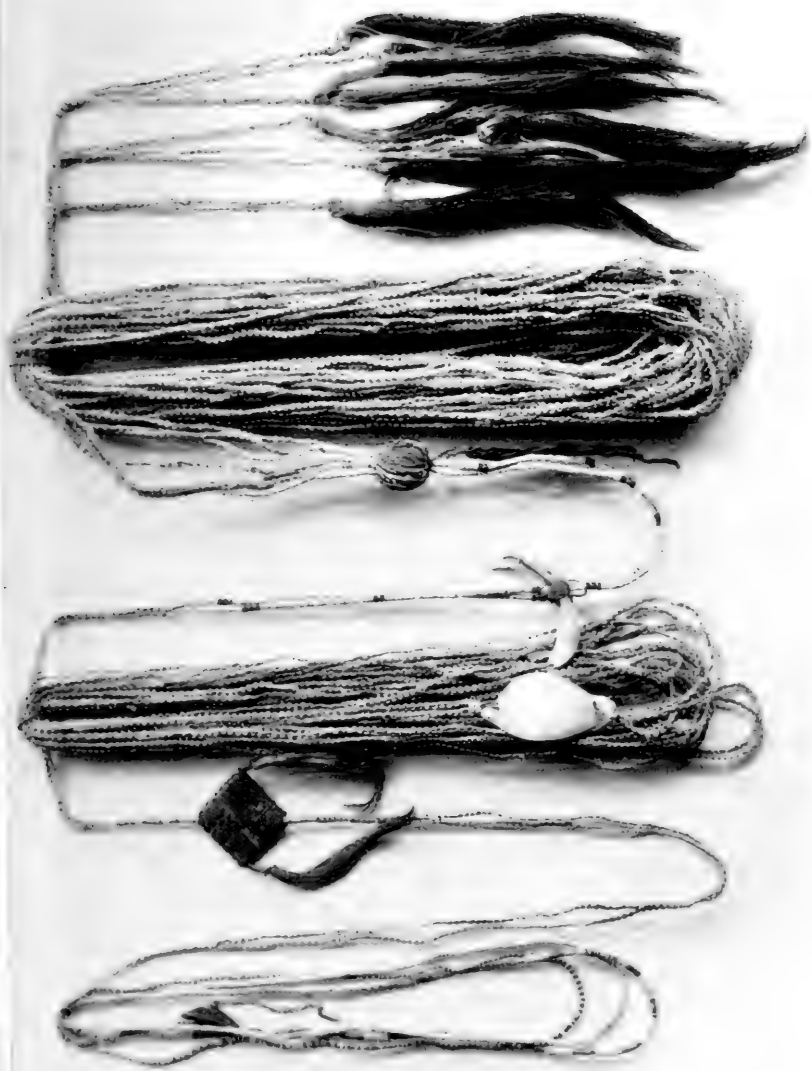
BIROK OR PIG MONEY. NEW IRELAND  
One-fourth actual size





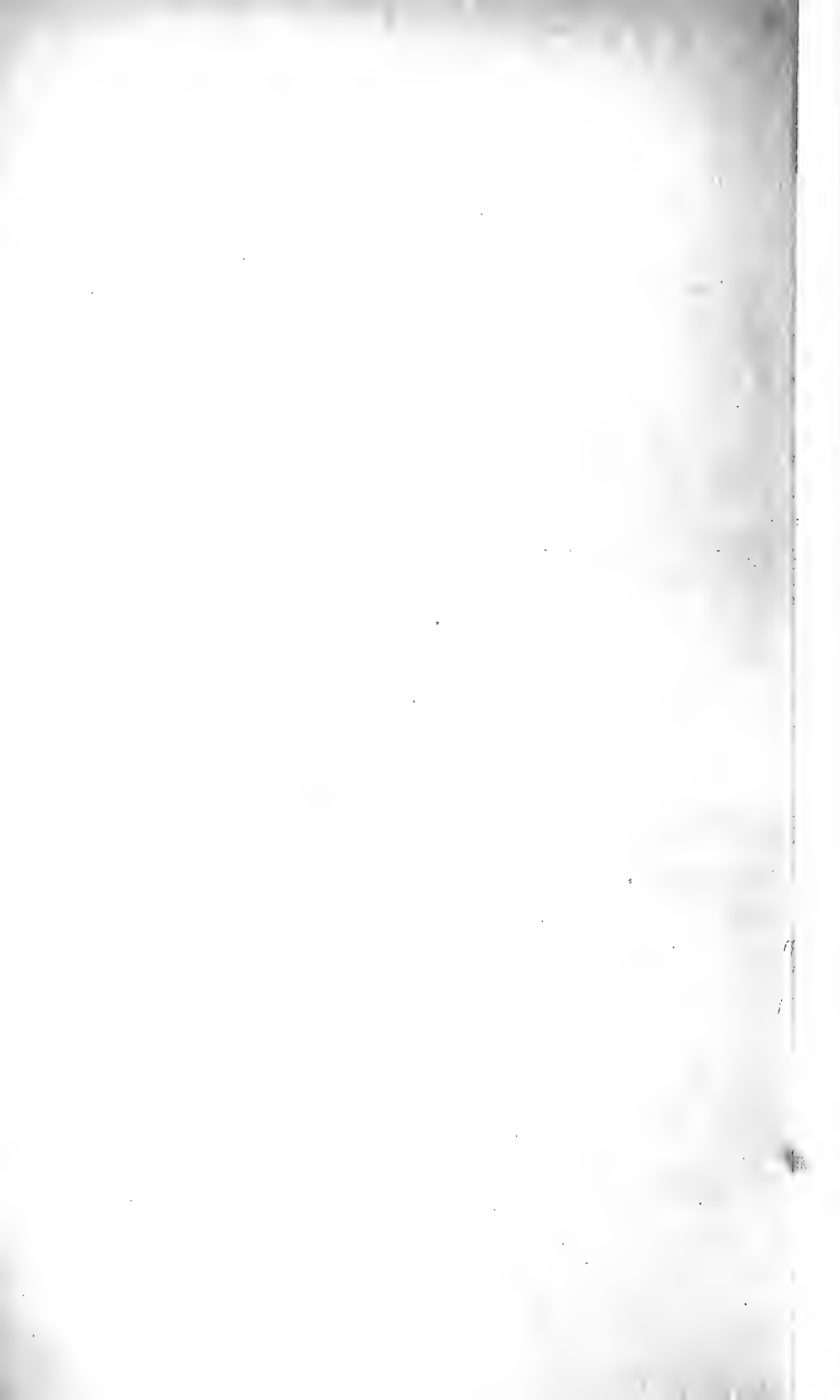
BIROK OR FIG MONEY. NEW IRELAND  
One-fourth actual size

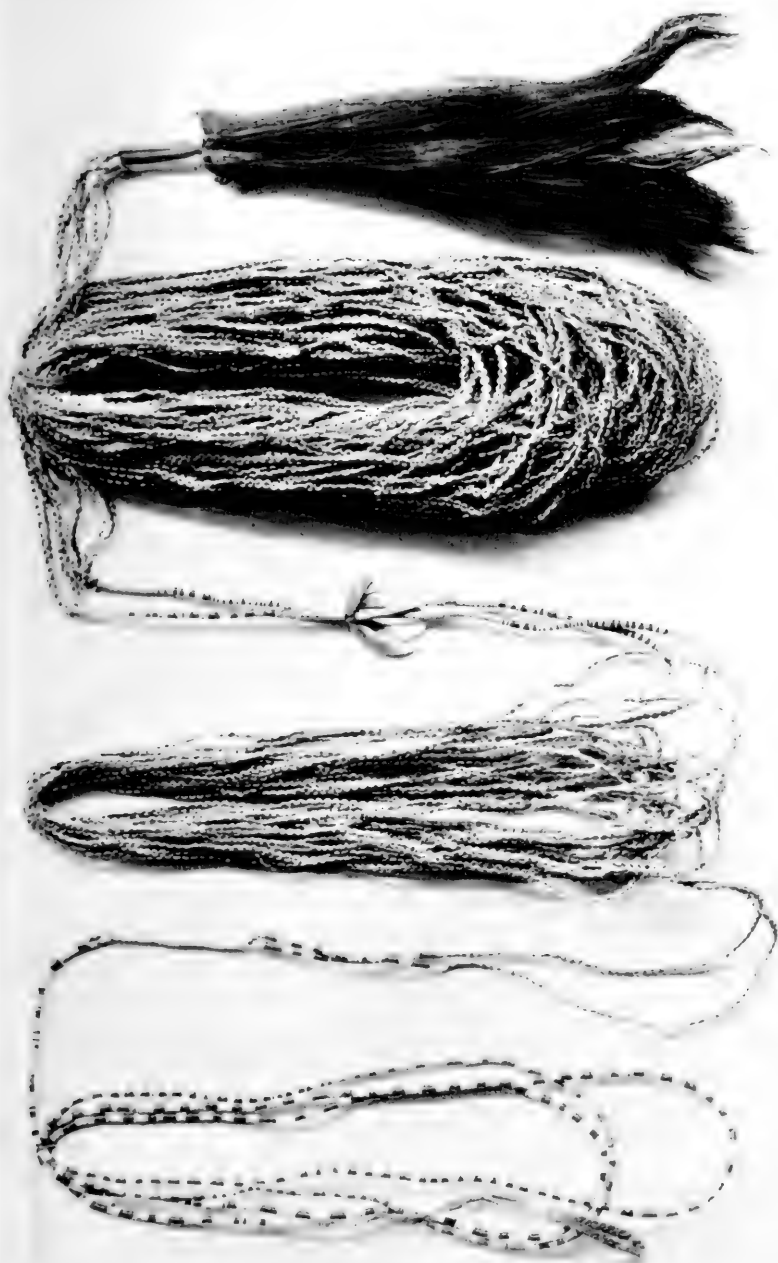




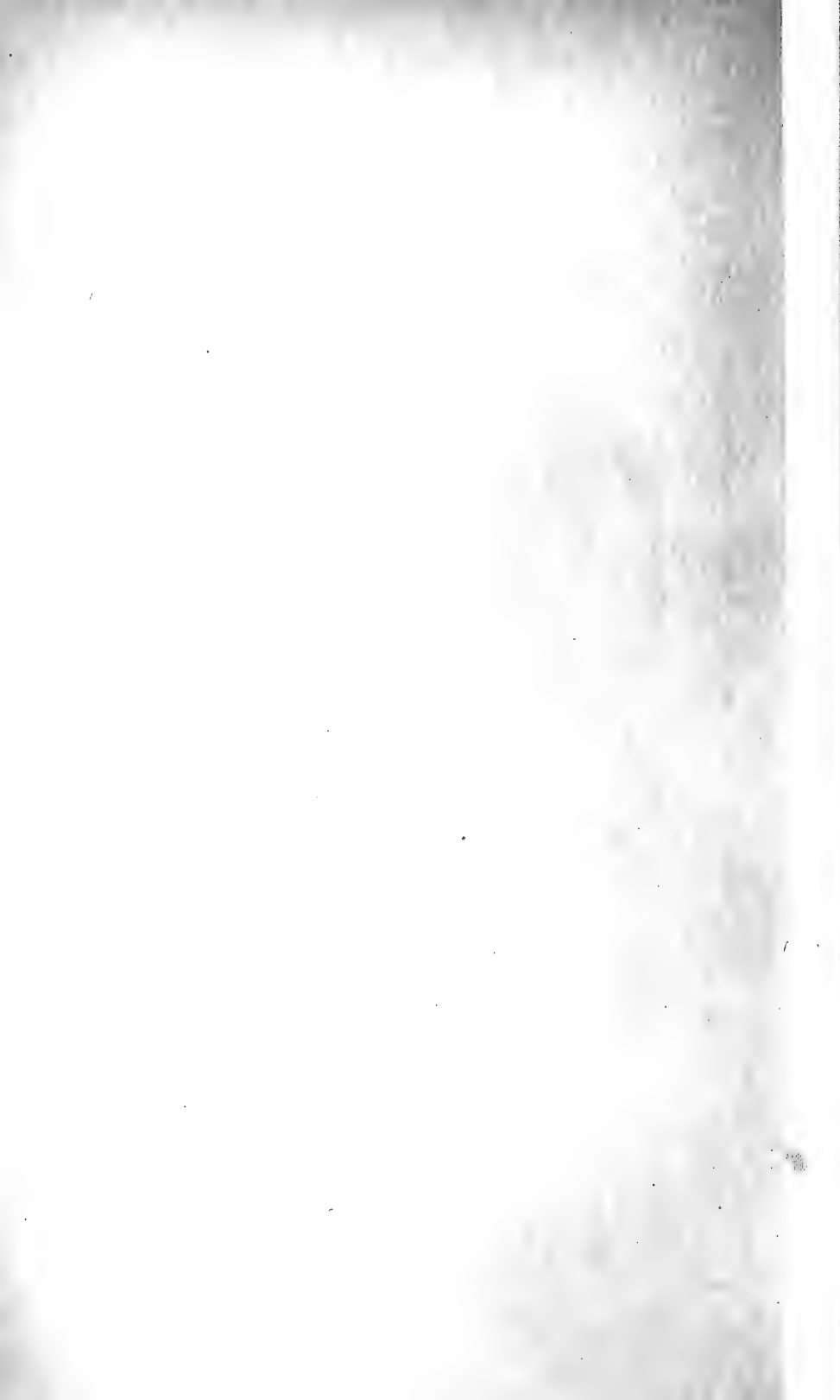
BIROK OR PIG MONEY. NEW IRELAND

One-fourth actual size





BIROK OR PIG MONEY. NEW IRELAND  
One-fourth actual size

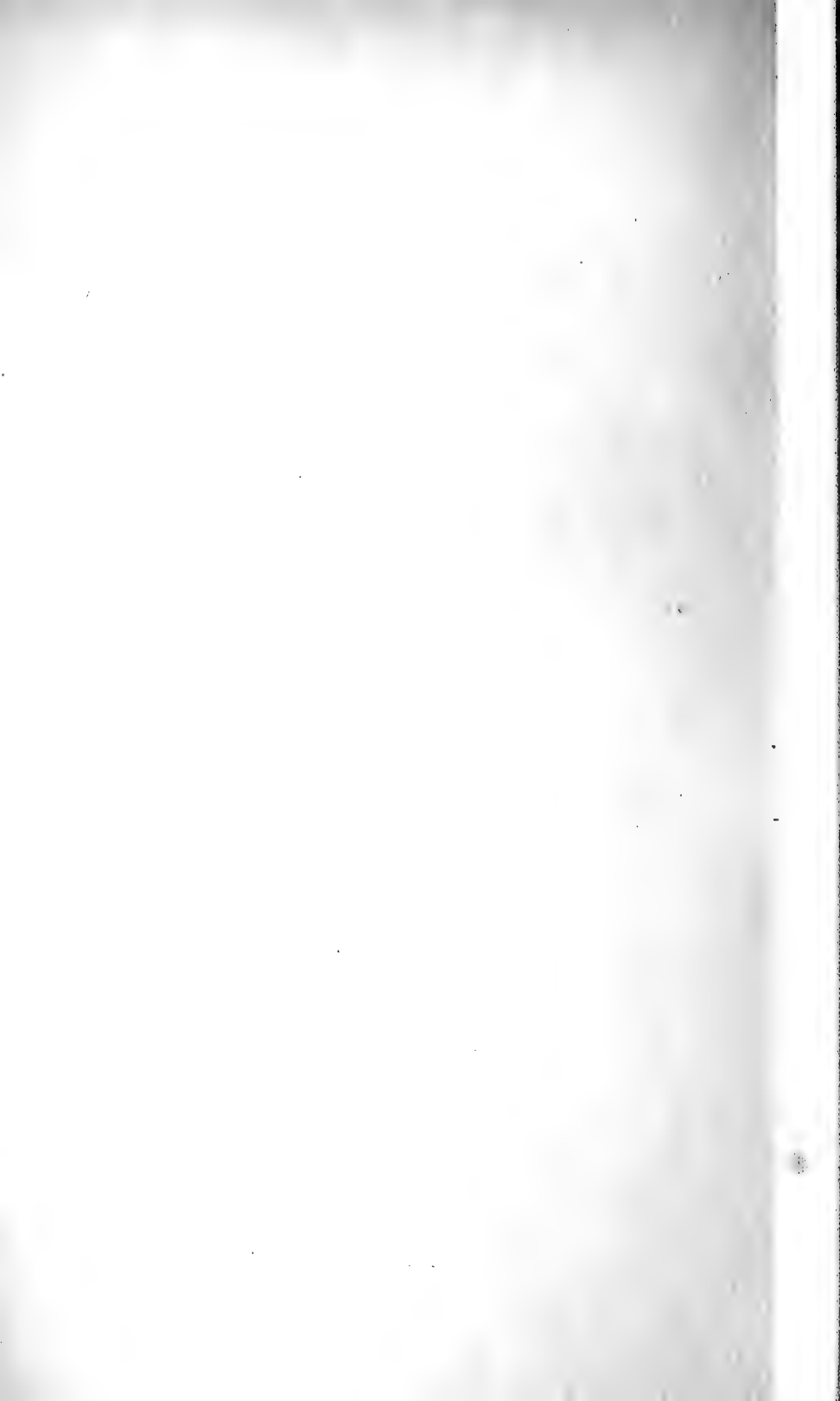






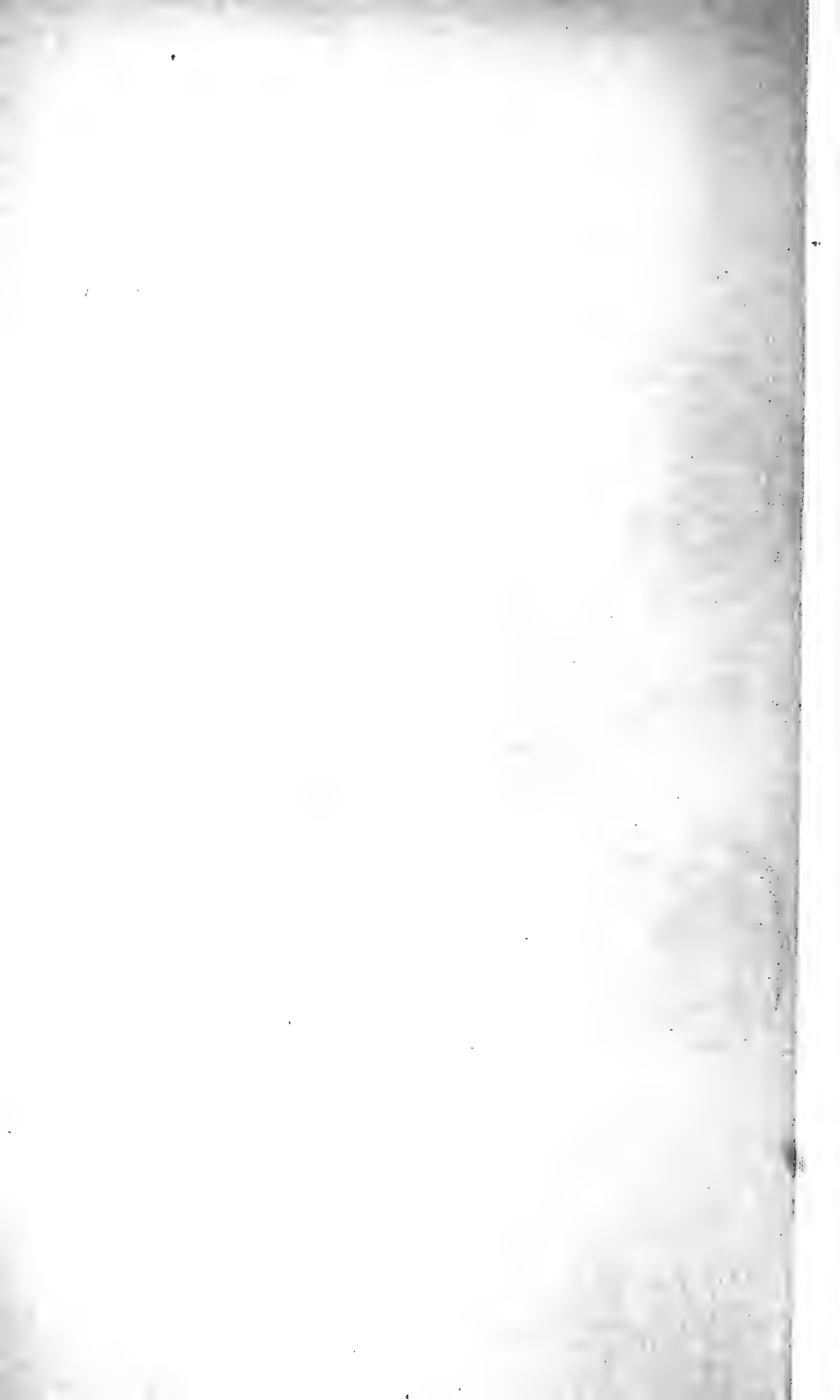
MANUM. NEW IRELAND

Actual size



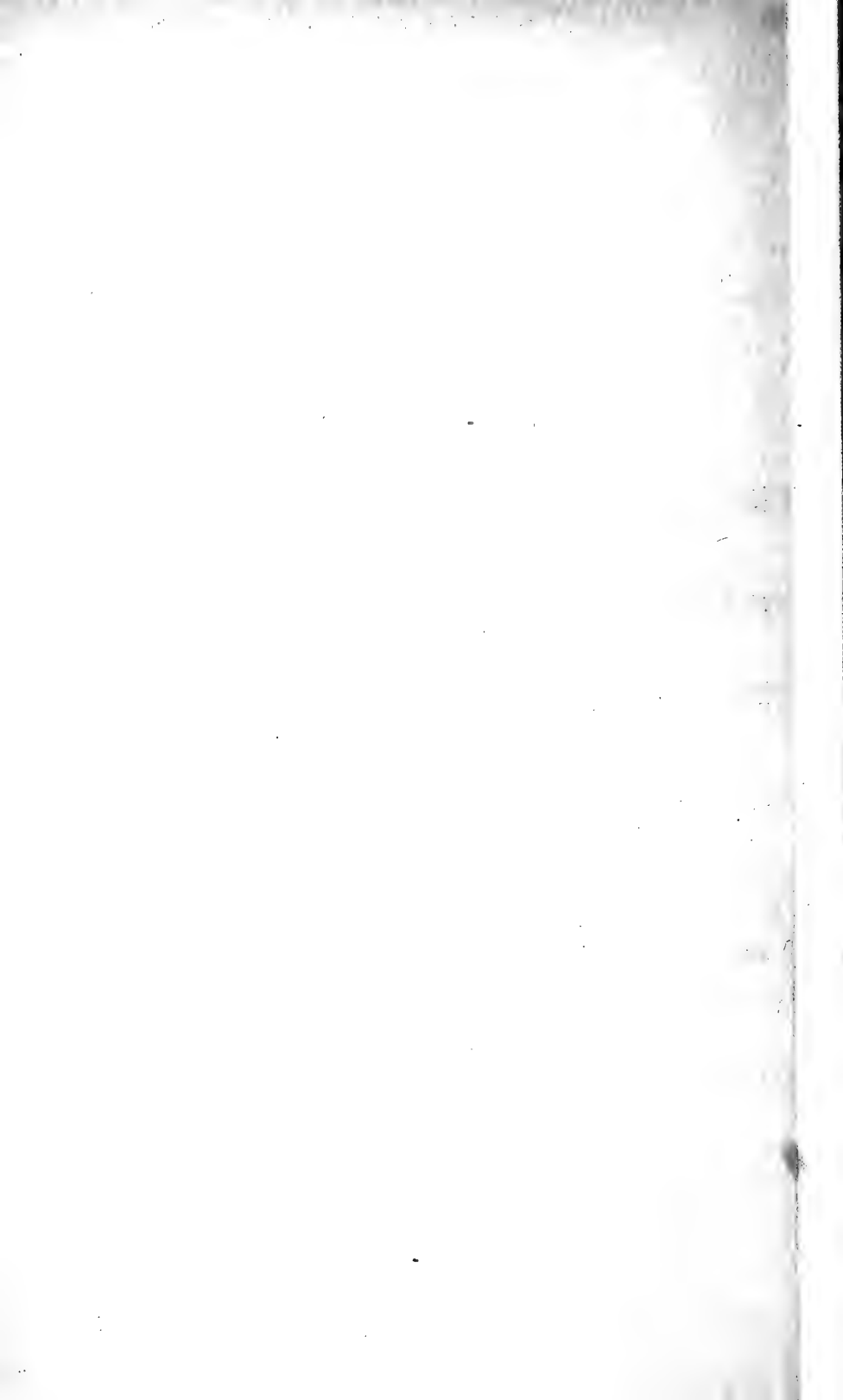


MANUM. NEW IRELAND  
Actual size



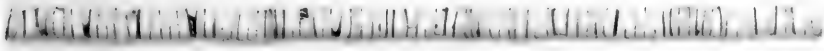


MANUM, NEW IRELAND  
Two-thirds actual size





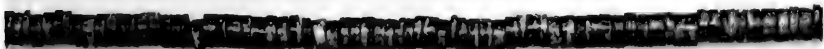
1



2



3



4



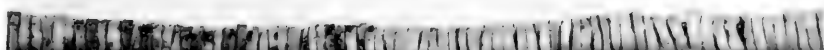
5



6



7



8

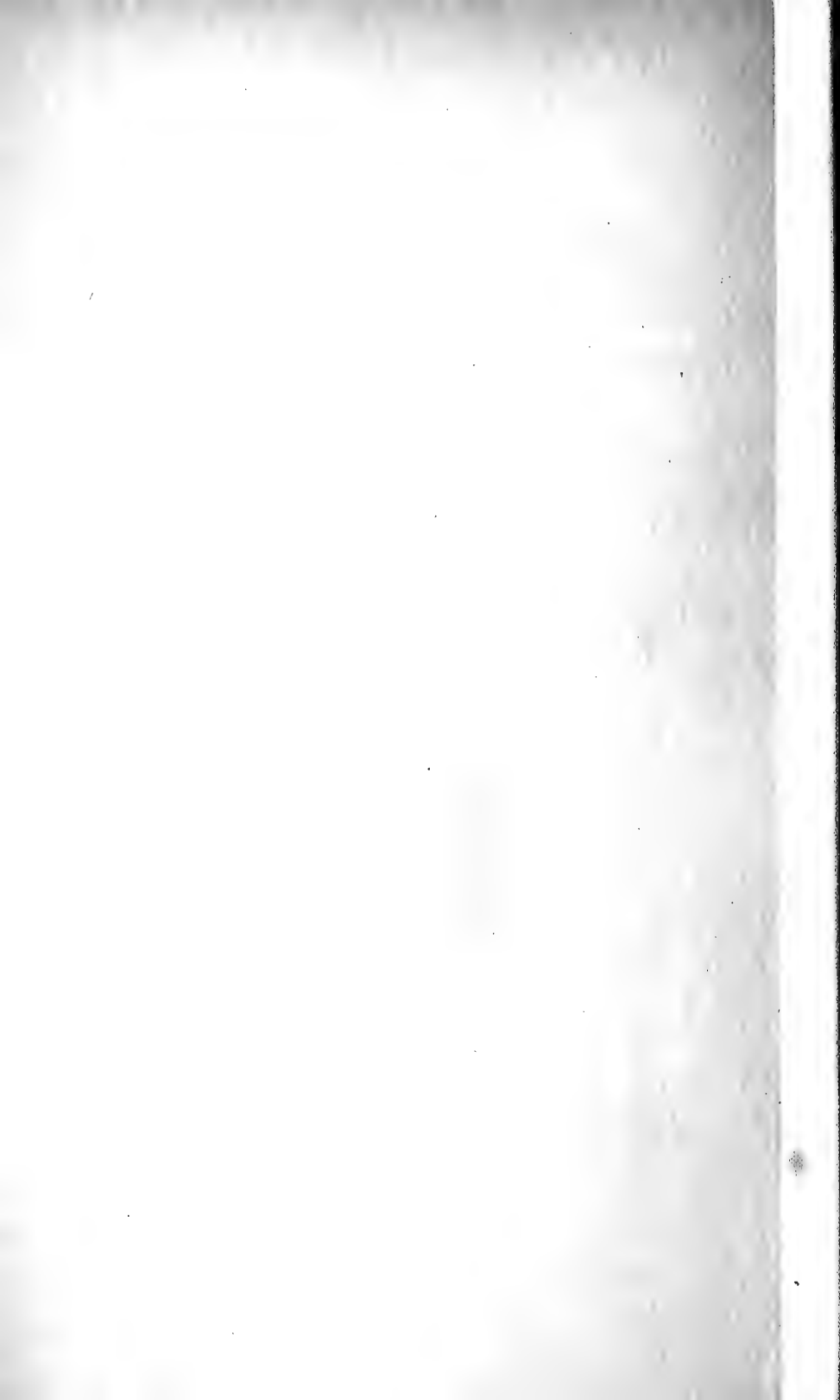


9



10

WHITE AND RED MONEY. SOLOMON ISLANDS  
Actual size







MOST VALUABLE MONEY OF NEW CALEDONIA

Seven-eighths actual size





CHEAPER MONEY OF NEW CALEDONIA  
Seven-eighths actual size















